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ABSTRACT

This study was undertaken to determine manpower needs in speech pathology and audiology by evaluating the effectiveness of present patterns of manpower utilization in reaching the target population. The investigation used four sources of data: (1) site visits to 20 service programs across the nation, (2) questionnaire surveys distributed to all service programs in the field and to all schools with two or more clinicians, (3) a random survey of association members, and (4) quantification of students training in the field based on enrollment figures supplied by the available training programs and schools. The study found serious manpower shortages for both speech clinicians and audiologists, despite a 300 percent rise over the past decade in the number of students receiving degrees in these fields. The results support the need for an educational effort to change negative administrator attitudes regarding the use of supportive personnel to fill manpower shortages. This conclusion was reaffirmed by participants in a 3-day conference held to examine the findings and make recommendations regarding the optimal utilization of professional and supportive personnel. (BH)

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FINAL REPORT

Project No. RD-2443-S-68-C1

MANPOWER NEEDS AND MANPOWER UTILIZATION
in
SPEECH PATHOLOGY AND AUDIOLOGY

American Speech and Hearing Association

November, 1969

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SIGNIFICANT FINDINGS

Results of this study demonstrate a significant manpower shortage in the field of speech pathology and audiology. Three-fourths of the 740 speech and hearing clinics reported needing an average of more than three speech clinicians each to meet the existing demand for services. Additionally, the directors of these clinical facilities indicate a projected manpower need of 4000 speech clinicians by the year 1973. Similar manpower shortages exist for audiologists where 1200 were reported as being needed immediately and an additional 1300 were projected as necessary by 1973.

Data from the clinical facilities concerning the age distribution of their clientele produced interesting results. In both nonuniversity and university hospitals (or other health facilities such as rehabilitation centers, etc.) adults constitute almost one-half of the caseload. For community speech and hearing centers and university and college clinics the adult clientele represents about one-fourth of the caseload. These findings tend to contradict the stereotype--that the speech clinician always works with children. Further, they have significant implications for training programs in the field.

The number of students receiving degrees in speech pathology and audiology each year has trebled in the past decade; however, the current supply of less than 2000 master's degrees conferred in one year is not sufficient to meet the immediate needs for fully trained professionals as reported by the directors of clinical service programs. (It should be noted, however, that the data reported here were gathered in 1968 and may not reflect the manpower picture as it fluctuates with a generalized economic slowdown.)

Utilization of supportive personnel is one way to reconcile shortages in professional manpower. This study demonstrated that directors of speech and hearing clinical facilities have an unrealistic concept of the potential place for supportive personnel in the delivery of speech and hearing services. A concerted effort to educate members of the profession regarding the possible place of supportive personnel in the delivery team may be warranted.

PART I

MANPOWER NEEDS AND MANPOWER UTILIZATION
in
SPEECH PATHOLOGY AND AUDIOLOGY

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November, 1969

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MANPOWER NEEDS AND MANPOWER UTILIZATION
IN SPEECH PATHOLOGY AND AUDIOLOGY

> In common with other professional disciplines, speech pathology and audiology is affected by a shortage of trained personnel. The present demand for qualified personnel to provide services to individuals handicapped by disorders of speech, hearing, and language is, by very conservative estimates, at least three times greater than the number available. (Moncur, 1967, p.v)

Manpower needs and manpower utilization in speech pathology and audiology are of increasing concern to the profession. In any profession, manpower needs depend upon the supply of and the demand for its services. Operationally, both a real and potential supply and demand must be considered.

The real supply of manpower for speech pathology and audiology is the active manpower; the potential supply includes the trained, but inactive, manpower and the manpower being trained. Neither the real nor the potential demand for or supply of manpower in speech pathology is known. Quite probably these things can never be known exactly and, therefore, it will continue to be necessary, as in the past, to talk about them on the basis of approximations.

The real demand for services in speech pathology and audiology is the number of persons who actually are asking for services; the potential demand is the number who actually need or will need services and who may ask for them. For the purpose of estimating the potential demand for services, data are incomplete. The Department of Health, Education, and Welfare (1969, p. 13) has estimated, however, that about 8.5 million Americans have auditory problems which impair communication, not including the 236,000 deaf adults and children (p. 11). The Midcentury White House Conference reported that approximately 10 million citizens have speech disorders (ASHA Committee, 1952), and an additional 2.1 million persons have communication disorders resulting from neurological involvement (HEW, p. 16).

There is undoubtably overlap in these figures; we can assume that about 20 million persons in this country have communicative handicaps worthy of concern. Moreover, at least a third of this number suffer either substantial or severe educational, social, and economic disadvantages as a result of their communicative handicap. Approximately 4 million of the total are under the age of 21 years (HEW, P. 16).

Those who have been considered potential recipients in the past are now becoming a real population, seeking speech and hearing services by virtue of federal legislation such as the poverty program (Project Head Start, Job Corps, etc.), the Medicare programs, programs concentrated on heart disease, cancer, and stroke, and other programs designed to meet the health, education, and welfare, and vocational rehabilitation needs of persons with conditions that prevent full use of existing skills or the development of potential skills.
Other factors that are changing potential need for services into real need for services include population growth, increased longevity, and early identification of communication problems.

This growing population requires much more in the way of services than the 11,600 active professionals can render. Irwin (1952) suggests a manpower force of 24,000-29,000 as necessary to meet the current service demands. However, the yearly graduation of 1500 professionals will not allow this to become a reality in the foreseeable future.

As in other allied health and educational fields which are faced with an obvious gap between the supply of trained professionals and the demand for their services, those in the field of speech pathology and audiology are examining other ways of increasing the effectiveness of the present manpower. Of the various possibilities, the most promising include improving methods of case selection; increasing direct client service by assigning administrative positions and tasks to nonprofessional administrators; making greater use of programmed learning techniques; and involving supportive personnel in certain clinical activities.

The use of supportive personnel in this field is not new. The American Speech and Hearing Association has taken steps toward formulating an attitude toward the utilization of nonprofessionals in the management of speech and hearing caseloads. The Association has sponsored two national conferences on supportive personnel--one concerned with their use in community, hospital, and other speech and hearing centers; the other concerned with their use in school speech and hearing programs. In 1967, the Executive Council unanimously passed the following resolution:

> WHEREAS, The personnel shortage in the health and educational fields generally has resulted in the emergence of supportive personnel activities in a variety of professions, and
>
> WHEREAS, The Executive Council has already recognized the existence of their use in speech pathology and audiology by (1) its charge to the Committee on Clinical Standards, (2) the approval of the study on manpower needs and manpower utilization, and
>
> WHEREAS, The Committee of Committee Chairmen does express its concern for these matters to the Executive Council,
>
> BE IT RESOLVED, That a Committee on Supportive Personnel be appointed to formulate guidelines for Association policy, and to make recommendations to the Council on such matters

> as (1) definition of tests and standards, (2) organizational relationships, (3) training and accreditation, (4) supervision and responsibility, and (5) evaluation. (Asha, Vol. 10, No. 4, p. 159)

PURPOSES

This study was undertaken to investigate some of the existing patterns of manpower utilization by professional service programs in speech pathology and audiology, determining the relative weaknesses and strengths of these programs, by asking such questions as: How large is the population currently receiving services? How large is the population which needs services? How are sociologic and economic changes affecting the population of persons needing services? What portion of those being served need more services? How many professionally trained persons are actively offering speech pathology and audiology services? How many persons who are not trained to a professional level are offering these services? How many persons are now being trained to offer these services in the future?

In an attempt to answer these questions, the investigation proceeded in four directions: (1) site visits to 20 selected service programs throughout the country; (2) questionnaire surveys to all identifiable speech and hearing service programs and to all school systems employing two or more speech and hearing clinicians; (3) a random survey of ASHA membership; and (4) quantification of the students in training in the field.

PROCEDURES

Site Visits. This first phase of the manpower study was to make site visits to examine, in detail, 20 selected programs in different geographical areas throughout the country. The thought was that site visits would provide a clear first impression concerning the utilization of available manpower and the attitudes toward the use of supportive personnel. This procedure also was considered a suitable prelude to the development of questionnaires which would be sent to speech and hearing clinics. An important advantage to the site visit method of investigation was that it allowed for a comparison between the attitudes expressed by the director of the program and those attitudes expressed by the staff of that same program.

Twenty professional service programs, varied as to size and geographic location, were selected. The selection included five university speech and hearing programs, four public school speech and hearing programs, four university health facilities, four nonuniversity health facilities, and three community speech and hearing centers.

Permission to make the site visits was obtained from the director of each program. The proposed plan of the site visit was then discussed in order to schedule mutually agreeable dates. For economy of time, effort, and finances, the scheduling considered such factors as geographic location, school and university calendars, and conference dates. Every effort was made to schedule visits that would coincide with regular staff meetings of the program so that the interviewers might meet first with the entire staff. An attempt was made to avoid interference with the regular working schedule of the staff. Of the first 20 directors contacted, all agreed to participate in the study.

The first two visits arranged were in nearby Virginia and Maryland to a large school district and to a medium-sized rehabilitation center. For these two visits the two investigators worked as a team and thus coordinated their techniques as much as possible. A survey consultant assisted the interviewers in refining their recording of interview responses. All 20 visits were completed by March 1, 1968.

Two weeks prior to the site visit interview, the director of the program received a questionnaire (Appendix B). This procedure allowed the directors time to collect certain statistical information prior to the interviews.

The interviewer met first with the entire staff. After introducing the purposes of the study and answering questions, he distributed the checklist of responsibilities (Appendix A, Form III) to all persons involved. This form listed specific tasks and asked the respondent to indicate whether or not he performed these tasks. The questions were all contained within five categories: "Responsibilities for Records or Reports," "Duties Regarding Speech and Language Diagnosis," "Duties for Speech and Hearing Diagnosis," "Duties for Hearing Habilitation and Rehabilitation," and "Duties Regarding counseling or indoctrination."

After completing Form III, each respondent received Form IV (Appendix A). Form IV indicated the relative time spent on each duty or responsibility and instructed the respondent to rank the four items which occupied a clear majority of his work time.

Each member of the staff then received Form II (Appendix A), a checklist of personal data. One of the items on this form was an indication of ASHA certification status. Each member of the staff who was certified by the ASHA, or had certification pending, was asked to complete Form V (Appendix A), the checklist of attitudes on supportive personnel.

The checklist of attitudes on supportive personnel contained the same questions as did Form III (Duties and Responsibilities), but required a response indicating the lowest possible level of professional training that was required to perform these duties. Three choices of level of training were given: (1) no formal college training in speech pathology or audiology; (2) college training in speech pathology and audiology below a bachelor's level; and (3) a holder of a bachelor's degree with a major emphasis in speech pathology and audiology (or a master's candidate in this field).

The entire staff[1] was then interviewed individually, following the questions on Form VI. Before this session, the responses to Forms II, III, and IV were checked so that any omissions or inaccuracies would be rectified. The personal interviews lasted approximately 30 minutes each.

Additional time was spent with the director of the program in order to get a complete description of the entire facility. The previously mailed questionnaire was reviewed, item by item.

After the last site visit the data were edited and prepared for computer analysis. Caution should be exercised in reviewing the tables containing data based on these 20 site visits since they are illustrative of only the programs visited and can not be considered representative of the total population of speech and hearing service facilities.

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[1] In public school settings it was not possible to interview all personnel. Instead, a sample of the total staff was interviewed according to the procedures described.

Clinical Facilities Survey. All lists which might identify speech and hearing clinical facilities were collated in an attempt to compile a master list for the entire United States. During February 1968, a questionnaire (Appendix B) was mailed from the National Office of the American Speech and Hearing Association to the directors of 1105 clinical facilities. The questions were similar to many of the questions asked during the site visits. An examination of the questionnaires in Appendix A and Appendix B will show these similrities.

Eight weeks after the original mailing, a follow-up letter, together with another copy of the questionnaire, was sent to those clinics which had not replied. Four weeks later a reminder postcard was sent to those clinics which had not yet replied. In early June 1968, efforts to collect data were completed. Of the 1105 questionnaires dispatched, 862 (78%) had been returned. There were 121 invalid returns, leaving 741 (or 67% of the total mailed out). This report is based on the information received from these 741 facilities.

Public School Survey. The same questionnaire that was sent to the clinics also was sent to 1524 public school systems. It was believed that each of these 1524 systems employed two or more speech and hearing clinicians. As in the case of the previous questionnaire, the original mailing took place in February 1968, followed by a second mailing eight weeks later and then by a postcard after another four weeks had elapsed. At the end of the data collection period 1044 responses (68.5%) had been received. Eighty-five responses were ruled invalid, leaving 959 (63%) usable responses.

The original intent was to send a questionnaire to all school districts employing two or more speech and hearing professionals. This intent was not actually achieved. Because of the necessity of working from inadequate lists, many questionnaires were probably sent to school districts that employed no speech and hearing professionals, or only one. On the other hand, some large school districts with more than two speech and hearing clinicians were not included in the sample. Some of the very large school districts such as New York City, did not return the questionnaires. The reader is urged to consider these limitations involved in examining the data from the school systems.

Random Sample of ASHA Membership. During February 1968, one-tenth of the membership of the American Speech and Hearing Association was sent a questionnaire (Appendix C). The purpose of this survey was to gather approximation data concerning the professional characteristics and activities of speech pathologists and audiologists. A cover letter was sent along with the questionnaire, explaining the purpose of the study and requesting that those Members already contacted through the on-the-spot survey indicate this on their return questionnaires. Eight weeks after the first mailing, a second mailing went to those who had not yet replied.

The questionnaire was divided into three main sections: Section 1 described the Member's employment environment as to type, location, setting, and relative size. Section 2 dealt with his actual working specifications, that is, total time spent on the job and relative time spent on various tasks, and the number of people receiving services. Opinions were also sought as to the opportunities for advancement and the use of persons with less training. Section 3 included a checklist of personal data, that is, professional training, experience, certification, and career expectations.

Of the total 1179 questionnaires mailed 827 (70.1%) were returned, 138 of which were not usable. Some respondents had already participated in site visits; some incomplete answers negated the use of other responses; some were returned because of no forwarding address left by the Member; and, some Members indicated lack of time or interest in the study. Whenever possible, personal letters of explanation were sent to Members who indicated difficulty in filling out the questionnaire.

Student Survey. As an additional facet of the manpower study, there was an attempt to quantify the number of students enrolled in the speech and hearing training programs in the United States. Early in 1968, a letter went to the directors of the 271 speech and hearing programs. On the enclosed postcard the directors were asked to give the following information:

1. The number of presently enrolled full-time and part-time students pursuing degrees in speech pathology and audiology at the bachelor's, master's, and doctorate level.

2. The number of full-time and part-time students who would receive degrees in the spring or summer of 1968 at the bachelor's, master's, and doctorate level.

The returned postcards showed that more than 3000 students were to graduate with bachelor's degrees during the spring or summer of 1968. The directors of programs offering a terminal bachelor's degree received a packet of one-page questionnaires for each of the graduates. This was an attempt to determine what the B.A. graduate would be doing the following year. Returns were received from 1579 (52%) individuals.

ANALYSIS

The returns from the questionnaires and the data from the site visits were coded and entered on punch cards for computer analysis. The data gathered from the survey of training programs regarding the numbers of students in training at their institutions were all hand-tabulated. The punch cards have been stored in the National Office of the American Speech and Hearing Association. Persons interested in examining other aspects of the data can receive copies of the cards at a nominal cost by writing to the Project Officer in care of the American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D. C. 20014.

The vast amount of data gathered through this study cannot be presented in toto without resulting in a too-lengthy document. Therefore, efforts have been made to present the most valuable information which would answer the major questions asked in this study.

MANPOWER CONFERENCE

As the culmination of the 18-month project on Manpower Needs and Manpower Utilization in Speech Pathology and Audiology, a conference was held in Corpus Christi, Texas, on March 9-11, 1969, under the auspices of the Social and Rehabilitation Service. This conference brought together leaders from the speech and hearing profession to examine some of the data from this study and to recommend methods for alleviating the personnel shortages in this field. The conference was composed of prepared papers presented by experts in various aspects of the manpower problem and group discussions centering around five distinct topics. The formal papers and recommendations of the group discussions are included in Section 2 of this report. The reader's attention is called specifically to the recommendations of the subcommittees found on pages 93-107.

The group discussions focused on five specific topics:

1. Optimal usage of professional manpower in speech pathology,
2. Optimal usage of professional manpower in audiology,
3. Use of supportive personnel in speech pathology and audiology,
4. Recruitment into the profession, and
5. Research needs in the area of manpower utilization and supplementation.

RESULTS

The results of the questionnaires and site visits will not be reported in terms of the individual procedures used to gather the data, but rather, will be reported under the following headings:

1. Present Manpower and Manpower in Training
2. The Clinician--His Role, Responsibilities, and Attitudes
3. The Clinic--Its Caseload and Clientele
4. Manpower Needs in Speech Pathology and Audiology
5. Educational Levels Needed to Perform Specific Tasks in Speech Pathology and Audiology

PRESENT MANPOWER AND MANPOWER IN TRAINING

Prefatory to a discussion of current manpower in speech pathology and audiology, it is necessary to define the boundaries of the population to which reference is being made. Persons who are actively engaged in the provision of speech, hearing, or language services to the general public range in academic qualifications from little or no formal training, to earned doctoral degrees in this field from accredited universities.

In order to define the population in a more utilitarian way, the term professional will be used to denote those persons with at least the master's degree in speech pathology or audiology; who may or may not be Members of the chief professional organization, the American Speech and Hearing Association (ASHA); and who either have certification, or who have completed the academic requirements for certification, by ASHA. The term preprofessional will be used to refer to those persons trained to the bachelor's degree or less and not possessing membership in or certification by ASHA.

Describing professionals and preprofessionals in this way seems defensible since, in 1965, the ASHA adopted By-Law changes which required the master's degree, or the equivalent, for membership in the Association. In effect the profession affirmed that this level of training was the minimum level required to be an independent clinical practitioner. Certification by ASHA in speech pathology or audiology is contingent upon membership in the Association, hence the By-Law change served to up-grade the level of persons providing clinical services to the general public. (It should be noted that the changes in certification requirements were waived for Members who, at that time, held only the bachelor's degree.)

At the present time 9500 Members of ASHA are certified. Additionally there are 750 Members who are receiving their necessary paid professional experience prior to gaining certification. Most of the other 2500 Members of the Association meet the academic requirements prerequisite to certification but are employed for purposes other than the provision of clinical services. It is estimated that there are an additional 3000 persons in the country who possess the master's degree and who would be certifiable, but who are not Members of the American Speech and Hearing Association.

The following discussion will utilize the foregoing definitions of professional and preprofessional.

Manpower in the Clinics. The directors of 741[2] clinical facilities responded to the questionnaire survey. That total group was composed of 117 community speech and hearing centers; 239 nonuniversity hospitals (or health facilities); 64 university hospitals (or health facilities); 217 university and college clinics (associated with training programs in speech pathology and audiology); and 104 facilities categorized as "other." The "other" category included such facilities as specialty clinics, i.e., cleft palate schools; and specialty schools, i.e., schools for the mentally retarded.

The total and mean number of employees, by type of facility, who provide clinical services and hold one or more college degrees with a major emphasis in speech, hearing, or language are shown in Table 1. The 62 university

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[2] Not all tables in this report will show the results from 741 facilities responding to the questionnaire. This is because some respondents failed to answer all questions.

Table 1. Total and mean number of employees, by type of facility, who provide services and hold one or more college degrees with a major emphasis on speech, hearing, or language (excluding volunteers and physicians).

TYPE OF FACILITY	N	Total Number Employees Who Provide Speech, Hearing & Language Services	Mean
Community Speech and Hearing Center	114	596	5.2
Non-University Hospital or Health Facility	238	942	4.0
University Hospital or Health Facility	62	358	5.8
University or College Clinic	217	1,227	5.7
Other	100	532	5.3
TOTAL	731	3,655	5.0

hospital clinics employ an average of 5.8 clinicians for the provision of services. University and college clinics reported an average of 5.7 clinicians; the "other" facilities employ an average of 5.3 clinicians each; and community speech and hearing centers have an average staff size of 5.2 clinicians. Non-university hospitals reported a considerably lower average, employing 4.0 clinicians in each of the 238 clinics responding to the question. The average number of clinicians for all 731 clinics was 5.0.

As a follow-up to the question on the number of employees who provide speech, hearing, and language services, the directors of clinical facilities were asked, "How many (of the total number of employees who provide services) either possess or have completed the academic requirements for Certificates of Clinical Competence from the American Speech and Hearing Association in (1) both speech pathology and audiology; (2) speech pathology only; or (3) audiology only?" Table 2 shows the results of that question, divided, again, according to the five types of facilities.

It is interesting to compare the total number of clinicians possessing certification (or with the academic requirements completed) with the total number of employees who provide services. In the 62 university hospitals, where an average of 5.8 clinicians are employed, 2.8 have certification in speech pathology, 1.5 are certified in audiology, and an average of 1.2 have certification in both speech pathology and audiology. A total of 341 (95%) of the 358 clinicians who provide services in the university hospital speech and hearing clinics either possess or have completed academic requirements for certification from ASHA.

Eighty-seven percent of the 1227 employees in university or college

Table 2. Total and mean number of employees, by type of facility, either possessing or having completed the academic requirements for the Certificate of Clinical Competence (CCC) in speech pathology (SP), audiology (A), or both Speech Pathology and Audiology (SP&A).

TYPE OF FACILITY	N	Total Number Employees Who Provide Services (From Table 27)	Total Number Employees With CCC in SP	Mean	Total Number Employees With CCC in A	Mean	Total Number Employees With CCC in SP&A	Mean
Community Speech and Hearing Center	114	596	287	2.5	88	.8	71	.6
Non-University Hospitals or Health Facility	238	942	474	2.0	115	.5	137	.6
University Hospitals or Health Facility	62	358	172	2.8	92	1.5	77	1.2
University or College Clinic	217	1,227	727	3.4	139	.6	201	.9
Other	100	532	245	2.5	74	.7	63	.6
Total	731	3,655	1,905	2.6	508	.7	549	.8

clinics, 77% of the service staff in nonuniversity hospitals, 75% of the clinicians in the community speech and hearing centers, and 72% of the staff in the "other" facilities either possess certification or have completed the academic requirements prerequisite to certification.

In all 731 clinics reporting, 2962 (81%) of the 3655 persons who provide speech, hearing, or language services either possess certification or have completed academic requirements for certification from the Association.

Manpower in the Schools. Although not determined as a result of this project, a recent study by the American Speech and Hearing Association reported that 12,700 persons are employed in the public schools of the United States for the provision of speech, hearing, and language services. Of this total, approximately 4500 are certified by ASHA. It is estimated by ASHA that an additional 2000 may have completed academic requirement for certification.

Many more bachelor's degree holders are employed as clinicians in the public schools than are working in speech and hearing facilities outside school environments. This is due to the fact that many state departments of education require only the bachelor's degree for employment.

ASHA is currently conducting a study which will define the school clinician population in greater detail, determining such factors as their highest academic degree, their years of professional experience, their expectations for continuation in the field, and their salaries. These data will be important in comparing school clinicians with members of the profession employed in other settings as determined in the study reported here. Results of the survey of school personnel should be available from the National Office of ASHA about July 1, 1970.

Students in Training. There has been a steady increase in the number of students in training in this field during the past decade. This increase has been attributable, in large part, to increased federal support for all higher education. Table 3 shows the numbers of bachelor's, master's, and doctoral degrees awarded in the years 1959-1968. The figures for the 1968-69 academic year are indicated as estimates. (Past experience has shown that these estimates are usually between 10-15% greater than the number actually graduated.)

During the academic year 1965-66 ASHA undertook to encourage directors of education and training programs in speech pathology and audiology to make their programs compatible with ASHA's membership and certification requirements by ceasing to offer terminal professional training at the bachelor's level. That is, to structure their training program in such a way that persons completing the bachelor's degree would not be tempted to terminate training at the B.A. level and seek full-time professional employment in the field. The results of this effort can be seen in Table 3 by comparing the total number of master's degrees with the total number of bachelor's degrees awarded in any given year. Following the 1965-66 academic year, the ratio of master's to bachelor's degrees increased steadily to a point where it is now 1:2. This is in comparison to the 1962-63 academic year, when the ratio of master's to bachelor's degrees was about 1:3.

In Table 4 the numbers of degree granting institutions is shown, divided according to the highest degree they can award. Of the 247 training programs in speech pathology and audiology, 55 offer the doctoral degree; 141 award the master's degree; and 51 train only to the preprofessional level.

Several important facts emerge from Tables 3 and 4. (1) The estimated total number of degrees that were to be granted in the academic year 1968-69

Table 3. Number of degrees granted by education and training programs in speech pathology and audiology known to exist during the survey years specified.*

Academic Year	Survey Year	Type of Degree			Total
		Bachelor's	Master's	Doctor's	
1957-58	1960	1,281	359	54	1,694
1958-59	1960	1,458	421	56	1,935
1960-61	1963	1,662	502	95	2,259
1961-62	1963	1,893	543	67	2,503
1962-63	1966	2,322	730	81	3,133
1963-64	1966	2,416	776	101	3,293
1964-65	1966	2,568	1,020	100	3,687
1965-66	1968	2,532	1,068	102	3,702
1966-67	1968	2,931	1,210	105	4,246
1967-68	1968	3,349	1,567	129	5,045
1968-69	1968	(4,044)	(1,992)	(182)	(6,218)

*Numbers in parenthesis are estimates.

Table 4. Number of known education and training programs in speech pathology and audiology for years 1960, 1962, 1963, 1966* and 1968.

HIGHEST DEGREE OF OFFERED	YEAR OF SURVEY				
	1960	1962	1963	1966	1969
Doctor's	40	40	44	49	55
Master's	90	95	93	131	141
Graduate Subtotal	130	135	137	180	196
Bachelor's (Preprofessional)	63	64	57	67	51
Total	193	199	194	247	247

*Based on data from previous studies (Johnson and Newman, Asha, April, 1961; Asha, August, 1962; Asha, December, 1963; Castle, Johnson, Newman, Asha, December, 1966).

was 6218, more than three times as many as graduated in the 1957-58 academic year (1964). The increase in the number of bachelor's degree holders trebled during this 10-year period, going from 1281 in 1957 to 4044 in 1968. The number of doctoral degrees granted in that 10-year period more than trebled, going from 54 in 1957 to an estimated 184 in 1968. The increase in the number of master's degrees was most striking, however, going from 359 in 1957 to almost 2000 in 1968.

(2) Almost twice as many preprofessional degrees as master's degrees are conferred in any one year. Failure of almost half of the preprofessional degree holders to go on for a master's degree and attain full professional status represents what may be considered to be a normal and healthy rate of academic attrition. Nevertheless, it also represents a serious manpower loss. The loss could be even greater than implied from Table 3, since some individuals begin their first exposure to the profession at the graduate level and are not included in the bachelor's degree column.

(3) In the 196 training programs that graduate fully-qualified professionals, an average of approximately 10 students are matriculated each year. The question of whether or not these training programs are operating at full capacity has not been ascertained.

In those training programs where the bachelor's degree is still considered a terminal degree, the students have the option of going on for graduate work in the field, or moving out into the work force to accept a position for which they are less than fully trained. As already mentioned, and as seen also in Table 3, nearly twice as many students receive the bachelor's degree as receive the master's degree each year. Obviously there is a substantial attrition after the fourth academic year.

An attempt was made to examine in more detail the vocational plans of bachelor's degree candidates who were to graduate from the training programs in speech pathology and audiology in the 1967-68 academic year. A quantity of one-page questionnaires was mailed to the directors of training programs, with the request that they give one each to the bachelor candidates for that year. The single question asked the respondents to check the one choice which best described their intended plans for the following year. The choices are shown in Table 5. Of the 1579 respondents, 32% indicated they would be going on to full-time graduate study in speech pathology and audiology. Thirty-eight percent reported their intent to work full-time in this field. The third-highest category of responses was the "other" category, which was checked by 12% of the students. Their written descriptions of what they would be doing indicated that most of these 195 persons would be working full-time in speech and hearing and attending graduate school part-time.

Table 5. Bachelor graduate survey results. Respondents were asked to check the one response which best described what they intended to do after obtaining their bachelors degree.

POST-BACHELOR PLANS	N	%
Graduate school full-time in speech pathology and audiology	503	32
Graduate school full-time in another field	31	2
Work full-time in speech and hearing	501	38
Work full-time in another field	59	4
Graduate school part-time and work part-time in speech and hearing	136	8
Graduate school part-time and work part-time in another field	14	1
Military service	13	1
Other	195	12
Checked more than one answer	27	2
Total	1,579	100%

THE CLINICIAN--HIS ROLE, RESPONSIBILITIES, and ATTITUDES

The clinician, the most important single component of any speech and hearing service facility, was surveyed directly by means of a questionnaire which was sent to a random sample of 10% of ASHA Members. Additional data were gathered from the site visits, during which clinicians were allowed to express their attitudes toward certain aspects of their employment. The 12 tables in this section describe these facets of their employment. Tables 6-8 describe the work setting, size of employment facility, and the preferred professional titles of the responding clinicians. Tables 9-13 are concerned with the years of experience and expectations for continuation of employment. The number of hours worked per week, the number of hours spent on specific tasks, and the number of individuals receiving direct services from the clinicians are reported in Tables 14-17. The last three tables in this section, 18-20, deal with the attitudes of clinicians toward their work and their educational training.

The Work Setting. Speech pathologists and audiologists work in a wide variety of employment settings. For the purpose of this study, respondents were asked to categorize their employment setting into one of six types: community speech and hearing center; nonuniversity hospital and/or health clinic (such as medical or rehabilitation centers); university hospital, medical college or other health facility (for example, dental school); university or college program (excluding university hospitals, medical centers, or medical colleges); elementary or secondary school; and "other." The designation "other" included such categories as private practice, state agencies, and specialized schools (for example, schools for the mentally retarded).

All tables in this section, with the exception of Table 13, are cross-tabulated with the respondent's preferred professional title. Five choices were allowed: (1) speech pathologist; (2) audiologist; (3) speech pathologist-audiologist; (4) speech and hearing clinician; and (5) classroom teacher, including teacher of the deaf. No instructions were given the respondents as to the differentiation between these titles. The choice was based solely on the individual's preference. In the site visit study the preferred professional titles were divided slightly differently to include categories of director, researcher, supervisor, and graduate student, in addition to the other five titles (see Tables 18-20).

Table 6 indicates the distribution of the random sample of ASHA Members according to the setting in which they are employed. The data in Table 1 are not exactly comparable to the data previously reported by Fricke, Bruder, and Watts (1969) for the employment environments of the total 1968 ASHA membership. Table 6, and the report of the entire ASHA membership in 1968, however, indicate that almost one-half of the clinicians are employed in elementary and secondary schools. The second largest number are employed in college and university training programs.

Table 7 describes the employment setting in terms of its relative size, designated by small, medium, and large. A small setting was one in which one or two clinicians were employed; a medium-sized facility employed from three to seven clinicians; and a large clinic was one with a staff of eight or more clinicians. Those persons identified as audiologists were found to be more frequently employed in medium-sized facilities and large clinics than in small settings. This situation is as might be expected due to the large capital

Table 6. Distribution of a random sample of 631 ASHA Members surveyed by professional title and current work setting.

PREFERRED PROFESSIONAL TITLE	N	TYPE OF SETTING Community Speech and Hearing Center	Non-University Hospital and/or Health Clinic	University Hospital and/or Health Clinic	University and College Clinic	Elementary Secondary Schools	Other Settings
Speech Pathologist	444	17 (3.8%)	49 (11.0%)	16 (3.6%)	78 (17.6%)	261 (58.8%	23 (5.2%)
Audiologist	61	7 (11.5)	16 (26.2)	14 (23.0)	14 (23.0)	3 (4.9)	7 (11.4)
Speech Pathologist-Audiologist	67	8 (11.9)	12 (17.9)	4 (6.0)	10 (4.9)	26 (38.8)	7 (10.5)
Speech and Hearing Clinician	21	2 (9.5)	0 (0.0)	0 (0.0)	1 (4.8)	17 (81.0)	1 (4.7)
Classroom Teacher including Teacher of the Deaf	38	1 (2.6)	1 (2.6)	0 (0.0)	11 (29.5)	22 (57.5)	3 (7.8)
	631	35 (5.5%)	78 (12.0%)	34 (5.4%)	114 (18.1%)	329 (52.1%)	41 (6.5%)

Table 7. Distribution of a random sample of 631 ASHA Members surveyed according to the relative size of the speech and hearing clinical staff at their place of current employment.

PREFERRED PROFESSIONAL TITLE		SIZE OF CLINICAL STAFF				
	N	Small: 1-2 Clinicians	Medium: 3-7 Clinicians	Large: 8 or more Clinicians	Not Applicable	No Answer
Speech Pathologist	444	145 (32.7%)	154 (34.7%)	115 (25.9%)	28 (6.3%)	2 (0.4%)
Audiologist	61	9 (14.8)	23 (37.7)	23 (37.7)	6 (9.8)	0 (0.0)
Speech Pathologist-Audiologist	67	22 (32.8)	23 (34.3)	19 (28.4)	3 (4.5)	0 (0.0)
Speech and Hearing Clinician	21	8 (38.1)	7 (33.3)	6 (28.6)	0 (0.0)	0 (0.0)
Classroom Teacher including Teacher of the Deaf	38	8 (20.2)	7 (17.3)	12 (31.9)	10 (27.2)	1 (5.8)
	631	192 (30.4%)	214 (33.9%)	175 (27.7%)	47 (7.4%)	3 (.5)

outlay necessary for audiologic equipment as opposed to the relatively small expense involved in equipment used in speech pathology.

The primary job task of the respondent is cross-tabulated with his preferred professional title in Table 8. Provision of clinical services is the primary task of the majority of the respondents. Audiologists are less frequently involved in clinical service as their primary job task than are speech pathologists, and are more often employed for supervisory, research, administrative, and teaching tasks. The data from Table 3 correspond closely with that data reported for the total ASHA membership by Fricke, Bruder, and Watts (1969) in which 70% indicated their principal employment activity as clinical, 13% indicated teaching as their primary task, 6% reported administration as the main task, 5% were employed primarily as supervisors, and 3% were mainly involved in research activities.

His Experience. Tables 9-13 deal with the years of professional experience and expectation of continuation in professional activities for the 631 ASHA Members who answered the random-sample questionnaire. Table 9 describes the responses to a question concerning the relative time of employment in the job each respondent currently held. Two-thirds of the Members reported that they had been employed on a full-time basis for more than one year in their present position.

The number of years of experience in the profession for the members polled is shown in Table 10. Over thirty percent of the respondents reported 6-10 years of professional experience, and slightly less than 30% reported 3-5 years of professional experience. Although not shown in these tables, Fricke reported that the median age for Members of the Association was between 26

Table 8. Distribution of a random sample of 631 ASHA Members surveyed according to primary job task and preferred professional title.

PREFERRED PROFESSIONAL TITLE	N	PRIMARY JOB TASK						
		Clinical Service	Supervision of Clinical Service	Research	Adminis-tration	Teaching College Students	Other Primary Job Task	No Answer
Speech Pathologist	444	327(73.6%)	25 (5.6%)	6 (1.4%)	14 (3.2%)	54 (12.2%)	14 (3.2%)	4 (0.8%)
Audiologist	61	30(49.2)	7 (11.5)	5 (8.2)	6 (9.8)	11 (18.0)	1 (1.6)	1 (1.6)
Speech Pathologist-Audiologist	67	44(65.7)	6 (9.0)		8 (11.9)	9 (13.4)		
Speech and Hearing Clinician	21	21(100.0)						
Classroom Teacher including Teacher of the Deaf	38	7(18.4)	2 (5.2)		2 (5.2)	11 (29.0)	16 (42.2)	
	631	429(68.0%)	40 (6.3%)	11 (1.7%)	30 (4.8%)	85 (13.5%)	31 (4.9%)	5 (.8%)

Table 9. Length of time employed in their present setting for a random sample of 631 ASHA Members divided according to their preferred professional titles.

PREFERRED PROFESSIONAL TITLE	N	LENGTH OF EMPLOYMENT Full-time under 1 year	Full-time over 1 year	Half-time under 1 year	Half-time over 1 year	Limited part-time	Full-time or part-time Graduate Student
Speech Pathologist	444	67 (15.1%)	295(66.4%)	7(1.6%)	34(7.7%)	34 (7.7%)	7 (1.5%)
Audiologist	61	13 (21.3)	39(63.9)	2(3.3)	1(1.6)	6 (9.9)	0 (0.0)
Speech Pathologist-Audiologist	67	7 (10.4)	52(77.6)	0(0.0)	4(6.0)	2 (3.0)	2 (3.0)
Speech and Hearing Clinician	21	3 (14.3)	16(76.2)	1(4.8)	1(4.7)	0 (0.0)	0 (0.0)
Classroom Teacher including Teacher of the Deaf	38	5 (13.1)	31(79.1)	0(0.0)	0(0.0)	1 (2.6)	1 (2.6)
	631	95 (15.1%)	433(68.6%)	10(1.6%)	40(6.3%)	43 (6.8%)	10 (1.6%)

Table 10. Total number of years of professional experience for a random sample of 631 ASHA Members surveyed according to preferred professional title.

		YEARS OF PROFESSIONAL EXPERIENCE							
PREFERRED PROFESSIONAL TITLE	N	None	Less than one year	1-2 years	3-5 years	6-10 years	11-15 years	16-20 years	21 years or more
Speech Pathologist	444	3 (.7%)	8 (1.8%)	46(10.4%)	134(30.2%)	140(31.5%)	61(13.7%)	35 (7.9%)	17 (3.8%)
Audiologist	61	2 (3.3)	0 (0.0)	6 (9.8)	16 (26.2)	23(37.7)	6(9.8)	5 (8.2)	3 (5.0)
Speech Pathologist-Audiologist	67	0 (0.0)	0 (0.0)	2 (3.0)	13 (19.4)	19(28.4)	21(31.3)	9 (13.4)	3 (3.5)
Speech and Hearing Clinician	21	0 (0.0)	0 (0.0)	1 (4.8)	6 (28.6)	4(19.0)	4(19.0)	1 (4.8)	5 (23.8)
Classroom Teacher including Teacher of the Deaf	38	1 (2.6)	1 (2.6)	2 (5.6)	9 (23.6)	10(26.3)	5(13.1)	5 (13.1)	5 (13.1)
	631	6 (.8%)	9 (1.4%)	57 (9.0%)	178 (28.2%)	196(31.1%)	97(15.4%)	55 (8.7%)	33 (5.2%)

and 30 years. This fact, coupled with the data from Table 10, suggests that the attrition of Members from the field is not as severe as might be expected of an organization which has a female-to-male membership ratio of approximately three to one (also reported in the Fricke article).

When the data from Table 11 are seen in light of the attrition that might be expected from a membership with a female-to-male ratio as large as that of the American Speech and Hearing Association, it is interesting to note that almost 70% of the respondents have had continuous professional experience since graduation. For the purposes of that table, a minor break in the continuity of work experience was defined as less than one year in duration; a major break was of more than one year's duration.

Table 12 indicates the Members' expectations for continuing in the profession. Again, a surprisingly high percentage of respondents reported that they would be continuing indefinitely. A follow-up question to the one concerning continuation of work in the profession was asked of those individuals who expected to work less than five years. The question asked; "Which would be the most important reason for your stopping work?" The majority of those responding to this question reported the cause of their stopping work as "family reasons," which included marriage, moving, and maternity. A comparison of Table 12 and Table 13 demonstrates that some of the persons who had indicated that they "did not know" about continuing professional work did answer the question which asked their reason for stopping. Causes other than those due to family circumstances appear relatively insignificant as factors in the interruption of professional careers.

Table 11. Continuity in years of experience in speech and hearing services for a random sample of 631 Members divided according to preferred professional title.

		CONTINUITY			
PREFERRED PROFESSIONAL TITLE	N	Continuous	Intermittent, Minor breaks*	Intermittent, Major breaks	No Answer
Speech Pathologist	444	311 (70.0%)	95 (21.4%)	36 (8.1%)	2 (0.5%)
Audiologist	61	38 (62.3)	14 (23.0)	7 (11.5)	2 (3.2)
Speech Pathologist Audiologist	67	52 (77.6)	10 (14.9)	5 (7.5)	0 (0.0)
Speech and Hearing Clinician	21	17 (81.0)	2 (9.5)	2 (9.5)	0 (0.0)
Classroom Teacher including Teacher of the Deaf	38	25 (65.8)	6 (15.8)	6 (15.8)	1 (2.6)
	631	443 (70.2%)	127 (20.1%)	56 (8.9%)	5 (.8%)

* A minor break was defined as one year or less.

Table 12. Expectation of work continuation in the fields of speech pathology and audiology for a group of 631 ASHA Members surveyed according to preferred professional title. See also Table 13

PREFERRED PROFESSIONAL TITLE	N	LENGTH OF TIME EXPECTED TO REMAIN IN THE FIELD				
		Indefinitely	Next 5 years at least	Between 1 and five years	Less than one year	Don't Know
Speech Pathologist	444	243 (54.7%)	38 (8.6%)	61 (13.7%)	9 (2.0%)	93 (21.0%)
Audiologist	61	50 (82.0%)	3 (4.9)	3 (4.9)	(0.0)	5 (8.2)
Speech Pathologist-Audiologist	67	49 (73.1)	4 (6.0)	3 (4.5)	(0.0)	11 (16.4)
Speech and Hearing Clinician	21	12 (57.1)	1 (4.8)	2 (9.5)	(0.0)	6 (28.6)
Classroom Teacher including Teacher of the Deaf	38	19 (50.0)	4 (10.6)	3 (7.9)	(0.0)	12 (31.5)
	631	373 (59.1%)	50 (7.9%)	72 (11.4%)	9 (1.4%)	127 (20.2%)

Table 13. Numbers and percents of respondents, from a survey of a random sample of 631 ASHA Members, who indicated whether or not they expect to stop work within five years or less, and the reason given.

RESPONSES	N	%
Expect to work continuously	453	71.8%
Expect to stop within 5 years	179	28.2
Reasons for stopping		
Family reasons	101	15.8
Dissatisfaction with		
Salary	7	1.1
Working Conditions	16	2.5
Possibility for Promotion	10	1.6
Professional Requirements	6	1.0
Other Reasons	39	6.2

Distribution of Time and Effort. Tables 14-17 are concerned with the clinicians' workload in hours spent on the job and numbers of individual clients seen each week. As previously mentioned and as demonstrated in Table 8, not all of the 631 ASHA Members who responded to the random-sample questionnaire were employed primarily for the provision of clinical services. In these four tables, the data given by all respondents were averaged regardless of the person's primary job task. This should be noted when considering these data.

Table 14 shows that 74% of the 631 respondents are employed on a full-time basis; that is, more than 30 hours per week. No other data are available from the Association to verify this finding, which seems to indicate a higher percentage of Members employed on a part-time basis than might have been expected a priori. This figure may be affected by the fact that questionnaire returns were voluntary and persons employed part-time had more available time to respond to such a request.

Those Members who indicated that they were full-time employees were asked to designate the number of hours per week spent on tasks of (1) general administration, (2) teaching or training, (3) research, (4) outside meetings, (5) supervision, (6) records and reports, and (7) direct patient care (see Table 15). As expected, it was found that direct patient care constituted the major time component for all respondents and comprised more than two-thirds of the work week for professionals from this field. Audiologists spent less time in direct patient care, but were more often employed for tasks other than the delivery of services, as previously reported in Table 8. Those persons who identified themselves as speech clinicians or speech pathologists spent between 25 and 31 hours per week in face-to-face patient care.

Table 14. Distribution of a random sample of 631 ASHA Members according to the number of working hours per week.

PREFERRED PROFESSIONAL TITLE	N	NUMBER OF WORK-HOURS PER WEEK 1 - 10	11 - 20	21 - 30	31 - 40	over 40 hours
Speech Pathologist	444	25 (5.6%)	40 (9.0%)	65 (14.6%)	227 (51.1%)	87 (19.7%)
Audiologist	61	5 (8.2)	2 (3.3)	3 (4.9)	27 (44.3)	24 (39.3)
Speech Pathologist-Audiologist	67	1 (1.5)	5 (7.5)	7 (10.4)	35 (52.2)	19 (28.4)
Speech and Hearing Clinician	21	1 (4.8)	1 (4.8)	2 (9.5)	13 (61.9)	4 (19.0)
Classroom Teacher including Teacher of the Deaf	38	1 (2.6)	1 (2.6)	6 (15.7)	15 (39.5)	15 (39.5)
	631	33 (5.2%)	49 (7.8%)	83 (13.1%)	317 (50.3%)	149 (23.6%)

Table 15. Average number of hours per week spent on certain tasks as reported by a random sample of 466 full-time* ASHA Members.

PREFERRED PROFESSIONAL TITLE	N	General Administration	Teaching Training	Research	Outside Meetings	Supervision	Records-Reports	Direct Patient Care**
Speech Pathologist	314	2.2	3.5	1.3	1.0	2.2	3.5	25.4
Audiologist	51	5.5	4.5	4.6	1.0	3.0	4.4	19.4
Speech Pathologist and Audiologist	54	4.5	2.2	.9	1.4	2.4	4.8	24.8
Speech and Hearing Clinician	17	.2	.1	.2	.4	.1	2.2	31.4
Classroom Teacher and Teacher of the Deaf	30	2.9	6.0	2.1	1.5	3.3	3.0	18.6

*More than 31 hours per week

**See also Table 16.

A more definitive breakdown of the number of hours spent in direct patient care is shown in Table 16, which divides the total patient care figure according to (1) testing or diagnosis of speech, language, and hearing problems; (2) habilitation (or rehabilitation) of speech and language and hearing problems; and (3) counseling.

Individuals who preferred the title of speech pathologist-audiologist spent less time in actual habilitation and rehabilitation of speech and language problems than did persons who identified themselves as speech pathologists or speech and hearing clinicians. The first group spent more time in diagnosis of speech problems, in hearing testing, and in counseling than did the other two groups of clinicians, however.

Table 17 indicates the responses to a question which asked, "Specify the approximate number of persons who receive speech, hearing, or language services directly from you in an average week." The distribution of responses of those persons who referred to themselves as speech pathologists is interesting in its bimodality. After the elimination of the 83 individuals who saw only 1-10 persons per week (probably representative of part-time and supervisory personnel), the distribution is still weighted on either end of the continuum. Over 30% of the clinicians saw more than 70 individual clients. In a previous report of the caseload of public school speech and hearing clinicians the average weekly caseload was 111 different children (ASHA Monograph Supplement 8, 1961).

Attitudes Toward Work and Educational Preparation. The responses to various questions regarding the clinicians' attitudes toward their work situation and their educational preparation are shown in Tables 18-20. Table 18 reports the results of two questions asked of 231 clinicians during the 20 site visits.

Table 16. Average number of hours per week spent in face-to-face patient contact, as based on responses of a random sample of 466 full time ASHA Members.

PREFERRED PROFESSIONAL TITLE	N	SPEECH & LANGUAGE		HEARING		COUNSELING	Total
		Diagnosis	Habilitation & Rehabilitation	Testing	Habilitation & Rehabilitation		
Speech Pathologist	314	2.8	18.7	.5	1.0	2.4	25.4
Audiologist	51	.5	.4	13.8	2.2	2.5	19.4
Speech Pathologist and Audiologist	54	2.7	10.9	6.0	1.8	3.4	24.8
Speech and Hearing Clinician	17	3.4	20.5	2.5	3.2	1.8	31.4
Classroom Teacher and Teacher of Deaf	30	1.6	9.3	.6	3.6	3.5	18.6

Table 17. Approximate numbers of speech, hearing, or language handicapped persons per week receiving services from a random sample of 571 ASHA Members.

PREFERRED PROFESSIONAL TITLE	N	1-10	11-20	21-30	31-40	41-50	51-70	71-90	Over 90
Speech Pathologist	407	83	45	35	22	27	38	84	73
Audiologist	55	22	12	9	7	1	1	1	2
Speech Pathologist and Audiologist	60	11	12	8	6	4	5	8	6
Speech and Hearing Clinician	21	2	1	2	0	0	4	4	8
Others	23	13	6	1	1	0	2	2	3
	571	131(22.9%)	76(13.3%)	55(9.6%)	36(6.4%)	32(5.6%)	50(8.8%)	99(17.3%)	92(16.1%)

Table 18. Opinions of 231 speech and hearing personnel, surveyed during the 20 site visits of the Manpower Study, regarding adequacy of time allowed for planning and preparation of activities and for keeping up with the trends of the profession.

MOST APPROPRIATE JOB TITLE		ADEQUACY OF TIME							
		For Planning and Preparation				For Keeping up with the Trends			
	N	Very Inadequate	In-adequate	Adequate	Not Applicable	Very Inadequate	In-adequate	Adequate	Not Applicable
Director	21		14	7		4	9	7	1
Speech, Language Clinician	74	5	22	47		12	34	28	
Audiologist	25		1	24		1	8	16	
Supervisor - Speech and Hearing	22	2	10	10		3	10	7	2
Researcher	24	2	9	13		1	14	9	
Educator of the Deaf Clincian	19	3	8	8		6	6	7	
Speech Hearing Clinician	18	1	6	11		2	4	11	1
Graduate Students	28		5	22	1		11	8	9
	231	13	75	142	1	29	96	93	13

The first question dealt with the adequacy of time allowed for the planning and preparation of work activities. The second had to do with the adequacy of time allowed for keeping up with the trends of the profession. The cross-tabulation of preferred professional titles in Table 18 differs slightly from that in the other tables in this section. Although the figures are too small to allow meaningful conclusions about a larger population of people, it is significant that the directors most often expressed the feeling that the time allotted for planning and preparation was insufficient. Researchers indicated inadequate time for keeping up with the trends of the profession more frequently than did any other subgroup. Generally, maintaining an awareness of the trends of the profession is more difficult than finding sufficient time for planning and preparation of work activities. In both cases, however, inadequate time was indicated as a problem by more than one-third of the persons questioned.

Table 19 depicts the responses of 631 ASHA Members surveyed in the random-sample questionnaire to two questions dealing with the level of education needed for their present job, and two questions dealing with advancement possibilities in their present setting. The first question asked, "Are there duties you perform that could be performed by persons with less education?" Forty-three percent of the 631 answered in the affirmative. The second question asked, "Are there duties you perform for which you feel undereducated?" In this question, 35% indicated that they did perform such duties. The rather large number of negative responses to both questions is somewhat surprising. One would suspect that virtually everyone performs some tasks that could be done by persons with less training, provided such persons were available. It is also noteworthy that such a large percentage of the respondents felt they did not perform duties for which they were undereducated. The responses,

Table 19. Percentage of positive and negative responses of a random sample of 631 ASHA Members to four questions concerning professional training and advancement. The questions were: (1) Are there duties you perform that could be performed by persons with less education? (2) Are there duties you perform for which you feel undereducated? (3) Does this work setting offer good opportunities for advancement? and (4) Are there specific things required of you in order to advance on the job? In those cases where the percentages of yes and no responses do not total 100%, the remaining percentage indicates those respondents who felt the question was not applicable to them.

PREFERRED PROFESSIONAL TITLE	N	QUESTIONS (1)		(2)		(3)		(4)	
		Yes	No	Yes	No	Yes	No	Yes	No
Speech Pathologist	444	40%	57%	35%	63%	39%	40%	30%	28%
Audiologist	61	61	36	36	62	62	29	39	43
Speech Pathologist-Audiologist	67	52	48	36	64	49	37	34	43
Speech and Hearing Clinician	21	52	48	19	81	33	43	19	62
Classroom Teacher including Teacher of the Deaf	38	31	69	31	66	63	18	37	39

however questionable they may appear, serve as an important background for a subsequent section of this report "Educational Levels Needed to Perform Specific Tasks in Speech Pathology and Audiology."

Forty-three percent of the respondents felt that their work setting provided good opportunity for advancement. Thirty-one percent reported that, for advancement, they would have to fulfill specific obligations. (See Table 19.)

The 631 Members questioned in the random-sample study were asked to indicate the minimum level of education necessary to acquire the position they currently held. Table 20 shows the results. The responses are mainly grouped in two divisions. Thirty-four percent stated that a baccalaureate in speech pathology and audiology was sufficient; 46% noted that a master's degree in this field was the minimum requirement. This, too, is especially important when considered in conjunction with the responses in the subsequent section, previously noted.

Table 20. Opinions of a random sample of 631 ASHA Members as to minimum education required to function in the position currently held by the respondent: (1) none, or a high school graduate; (2) bachelor's degree with major emphasis in field other than speech pathology-audiology; (3) bachelor's degree with major emphasis in speech pathology-audiology; (4) master's degree in field other than speech pathology-audiology; (5) master's degree in speech pathology-audiology; (6) doctor's degree in field other than speech pathology-audiology; (7) doctor's degree in speech pathology-audiology; and (8) other.

PREFERRED PROFESSIONAL TITLE	N	OPINIONS AS TO MINIMUM EDUCATIONAL REQUIREMENTS								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Speech Pathologist	444	1	5	182	6	201	2	31	12	4
Audiologist	61			4		35	1	18	3	
Speech Pathologist/Audiologist	67		1	9	4	40		11	1	1
Speech and Hearing Clinician	21			11	1	8				1
Classroom Teacher, including Teacher of the Deaf	38	1		9	8	8	2	2	8	
		2	6	215	19	292	5	62	24	6

THE CLINIC--ITS CASELOAD AND CLIENTELE

Diagnostic and rehabilitative services in speech, hearing, and language are provided in a wide variety of clinical settings. Before this study the exact number of facilities in the United States offering these services to the general public was not known. After carefully collating all available lists it was determined that probably 1105 facilities were offering speech, hearing, and language services. Additionally, 1524 public school systems were thought to employ two or more clinicians for the provision of services to communicatively handicapped children. It was arbitrarily decided that only those schools employing two or more clinicians would be surveyed, due to the great expenses involved in sampling the entire population.

Six tables are included in this section. These tables are essential to an understanding of caseload, clientele, and distribution of clinicians' time and effort in the clinical facilities which provide speech, hearing, and language services.

Distribution of Time and Effort. Table 21 shows the median percentage of time devoted to direct services to clients, staffing and other professional meetings, teaching and training, administration, and research in the 741 clinics and 893 public school programs. The median time devoted to services to clients ranged from 30% for college and university training program clinics to 87% for public school speech and hearing programs. Community speech and hearing centers, nonuniversity hospitals, and those clinics in the "other" category all reported a median of 75% of their time as being devoted to direct services. University hospitals reported a median of 63.5% time spent in direct service to patients.

Table 21. Median percent of time devoted to (1) direct services to clients; (2) staffings and other professional meetings; (3) administration; (4) teaching and training; and (5) research of the 741 speech and hearing clinics and 893 public school speech and hearing programs surveyed. The median percentages are not additive.

TYPE OF FACILITY		CATEGORY OF ACTIVITY				
	N	1	2	3	4	5
		median %	median %	median %	median %	median %
Community Speech and Hearing Center	117	75.0	5.0	10.0	5.0	4.0
Non-University Hospital or Health Facility	239	75.0	8.0	10.0	5.0	5.0
University Hospital or Health Facility	64	63.5	5.0	10.0	10.0	10.0
University and College Clinic	217	30.0	5.0	10.0	50.0	5.0
Public School Speech and Hearing Programs	893	87.0	5.0	6.0	5.0	2.0
Other	104	75.0	6.0	10.0	5.0	5.0

Time devoted to staffing and administrative duties as relatively constant throughout all types of facilities, ranging from a median of 5% to 8% for staffing, and 6 to 10% for administration. University and college training programs reported that a median of 50% of their time was devoted to teaching and training. University hospitals had a 10% median in this category, and the four other types of facilities all reported 5% as the median time allotted to teaching. Time devoted to research activities was reported as 10% for university hospitals; 5% for nonuniversity hospitals, university and college clinics, and "other" facilities; 4% for community speech and hearing centers; and 2% for public school speech and hearing programs.

Distribution of Caseload by Age Group. Table 22 shows the distribution of clients by age groups, in median percentages, in the five types of clinical facilities. Public school programs were not included in this table since their total caseload falls in the elementary and secondary grade levels. The preschool population constitutes a median of 32% of the caseload for community speech and hearing centers and 25% of the caseload of university hospitals, nonuniversity hospitals, and college and university clinics. Preschoolers represent 19% of the caseload (median) for the "other" types of facilities.

The relatively high median percentage (70%) of elementary and secondary school children in the "other" category suggests that these 104 facilities may be representative of a fairly high number of specialty schools (for example, schools for the mentally retarded), as previously noted. University and college clinics reported that elementary and secondary school children constituted 43% of their caseload, whereas the other three types of facilities reported median percentages of from 25% to 36%.

Table 22. Median percent of clients by age groups, receiving speech and hearing services in 741 clinics surveyed, divided by type of facility. The percents are not additive.

TYPE OF FACILITY	N	AGE GROUPS Pre-school	Elem/Secondary	Adults under 65	Adults over 65
Community Speech and Hearing Center	117	32%	36%	15%	10%
Non-University Hospital or Health Facility	239	25	32	35	15
University Hospital or Health Facility	64	25	25	35	15
University and College Clinic	217	25	43	20	5
Other	104	19	70	19	8

The two hospital settings (university and nonuniversity) reported serving the highest percentages of adults under 65, both at the 35% figure. University and college clinics indicated a median of 20% of their clientele within this age range; the "other" category reported a 19% median caseload of adults under age 65; and community speech and hearing centers showed a median caseload of adults under age 65 of 15%.

The two types of hospital facilities also reported serving the most adults over age 65, indicating 15% of their caseload as the median. Community speech and hearing centers showed a median of 10% of their total caseload to be over age 65. University and college clinics, and "other" facilities reported 5% and 8%, respectively, as their median caseload for this age group.

The university and nonuniversity hospital facilities showed similar profiles in relation to the age-group distribution of those persons who received speech, hearing, and language services through their clinicians. Community speech and hearing centers and the clinical service facilities of university and college programs were somewhat similar in their reports of the age distribution of their clientele. The "other" group was characterized by a concentration of elementary and secondary aged school children in their clinical caseload.

Magnitude of Caseload in Clinics. Tables 23-26 indicate the approximate numbers of different individual clients seen in the 741 clinics during 1967, divided according to the type of service that was provided: speech, hearing, and language screening services, Table 23; speech or language testing services other than screening, Table 24; speech and language habilitation and rehabilitation services, Table 25; and hearing habilitation and rehabilitation, Table 26.

These four tables are largely self-explanatory and are presented as a means of demonstrating the magnitude of services provided by the clinical facilities in this country.

The range of responses seen in Tables 23-26 is noteworthy. For example, Table 23 shows that 12% of the 117 community speech and hearing centers reported that during 1967 they provided speech, hearing, and language screening services for between 1 and 50 individuals. Seven percent of the 117 community speech and hearing service facilities, however, reported serving over 5000 persons for this same purpose. This broad range of responses can be seen in almost all tables, regardless of the type of facility reporting or the type of service described. A special point of interest should be noted in Table 26, which reports the number of clients seen for hearing habilitation and rehabilitation. Seventy-three percent of the 217 university and college clinics reported seeing between 1 and 50 individual clients for this type of service during 1967. This lends credence to the contention of some professionals that the education and training programs in this field are not placing sufficient emphasis on the habilitation and rehabilitation of the aurally handicapped. If the clinics at the university and college training programs are not seeing many persons for habilitation or rehabilitation of communication problems resulting from hearing loss, then the students are not receiving the clinical practicum necessary to develop competence for working with this type of handicapped person.

Table 23. Approximate number of different individual clients seen during 1967 for SPEECH HEARING AND LANGUAGE SCREENING SERVICES as reported in the survey of 741 directors of clinical facilities.

TYPE OF FACILITY	APPROXIMATE NUMBER OF DIFFERENT INDIVIDUAL CLIENTS								
	N	1-50	51-100	101-500	501-1000	1001-3000	3001-5000	over 5000	None no answer
Community Speech and Hearing Center	117	14	8	36	6	11	2	8	32
Non-University Hospital or Health Facility	239	41	27	60	12	9	3	1	86
University Hospital or Health Facility	64	8	4	17	3	2	0	0	30
University and College Clinic	217	24	17	59	26	36	10	9	36
Other	104	14	7	28	9	5	3	6	32

Table 24. Approximate number of different individual clients seen during 1967 for SPEECH OR LANGUAGE TESTING SERVICES OTHER THAN SCREENING as reported in the survey of 741 directors of clinical facilities.

TYPE OF FACILITY	APPROXIMATE NUMBER OF DIFFERENT INDIVIDUAL CLIENTS						
	N	1-50	51-100	101-200	201-500	over 500	none no answer
Community Speech and Hearing Center	117	11	20	24	28	7	27
Non-University Hospital or Health Facility	239	38	36	56	38	12	59
University Hospital or Health Facility	64	5	4	7	16	10	22
University and College Clinic	217	53	57	43	25	10	29
Other	104	19	11	19	16	9	30

Table 25. Approximate number of different individual clients seen during 1967 for SPEECH AND LANGUAGE HABILITATION AND REHABILITATION SERVICES as reported in the survey of 741 directors of clinical facilities.

TYPE OF FACILITY		APPROXIMATE NUMBER OF DIFFERENT INDIVIDUAL CLIENTS						
	N	1-50	51-100	101-200	201-500	501-1000	over 1000	none no answer
Community Speech and Hearing Center	117	16	20	26	26	3	6	20
Non-University Hospital or Health Facility	239	42	59	57	28	10	11	32
University Hospital or Health Facility	64	9	8	13	10	3	1	20
University and College Clinic	217	39	72	55	27	5	1	18
Other	104	20	20	16	14	4	3	27

Table 26. Approximate number of different individual clients seen during 1967 for HEARING HABILITATION AND REHABILITATION SERVICES as reported in a survey of 741 directors of clinical facilities.

TYPE OF FACILITY	N	APPROXIMATE NUMBER OF DIFFERENT INDIVIDUAL CLIENTS						
		1-50	51-100	101-200	201-500	501-1000	over 1000	none no answer
Community Speech and Hearing Center	117	52	14	14	8	4	2	23
Non-University Hospital or Health Facility	239	116	12	21	15	4	3	68
University Hospital or Health Facility	64	18	5	7	5	2	1	26
University and College Clinic	217	158	11	4	2	1	0	41
Other	104	53	6	4	6	4	1	30

MANPOWER NEEDS IN SPEECH PATHOLOGY AND AUDIOLOGY

An estimate of manpower needs in a field such as speech pathology and audiology can be derived in at least two separate ways. One way would be to begin with incidence data on the numbers of persons affected with disorders of communication. Knowing the desirable caseload for any one professional, one could use the incidence of communication handicaps as the basis for projecting the number of professionals needed to serve this population. The second way would be to poll the directors of service facilities across the country as to the numbers of additional professionals needed to meet the present and projected demands for services.

Both methods of determining manpower needs have serious limitations, however. The use of incidence figures fails to account for the geographical distribution of handicapping conditions and the difficulty of delivering these services in the rural, sparsely populated areas of the country. Determining manpower needs by means of a survey of the already established clinical facilities is also less than satisfactory. With only about 1100 known speech and hearing service facilities throughout the country, there are obviously geographical areas which are not now being served.

For the purposes of this study the second method was the one chosen. The directors of clinical service facilities and the directors of speech and hearing services in the schools were asked to indicate immediate and projected personnel needs in speech pathology and audiology. The reasons for their additional manpower needs and the barriers to expansion of their service programs also were requested. These data are reported in Tables 27-31.

Current Manpower Needs. The immediate and projected needs for full-time speech clinicians in the clinics and schools are reported in Table 27. Of those facilities reporting, 82% of the university and college clinics, 75% of the public school programs, 69% of the "other" clinics, 68% of the community speech and hearing centers, 64% of the university hospitals or health facilities, and 60% of the nonuniversity hospitals or health facilities indicated an immediate need for additional speech clinicians. In all, 1191 of the 1629 facilities reported needing an average of more than three clinicians each to meet the existing demand for services. These data are interesting in that the facilities which are subsidized by monies other than, or in addition to, those brought in through services rendered to patients (that is, schools, university clinics) reported a greater need for additional staff than did those clinics where there is a more direct relationship between numbers of clients served, clinic income, and support of professional staff.

The directors were also asked to indicate the need for additional speech clinicians projected five years into the future. They were instructed that this figure was to be separate from and in addition to the number put down as being needed immediately. Of the 1629 facilities reporting, 1236 indicated that they would need an additional 3917 speech clinicians over and beyond their present staff and their immediate manpower needs. This, too, is shown in Table 27.

The immediate and projected needs for certified audiologists (Table 23) were determined through questions identical to the ones asked in regard to speech clinicians. The percentage of those facilities reporting an immediate need was lower for all types of facilities than the number reporting an

Table 27. Immediate and projected needs for full-time speech pathologists who either possess or have completed the requirements for a Certificate of Clinical Competence as reported by directors of clinical facilities and public school speech and hearing programs. The figures indicated under PROJECTED NEEDS represent personnel who will be needed in addition to those designated under IMMEDIATE NEEDS.

TYPE OF FACILITY	N	IMMEDIATE PERSONNEL NEEDS		5-YR. PROJECTED PERSONNEL NEEDS	
		Percentage of Programs Indicating Need	Number of Clinicians Needed	Percentage of Programs Indicating Need	Number of Clinicians Needed
Community Speech and Hearing Center	117	68%	209	88%	262
Non-University Hospital or Health Facility	234	60	279	75	361
University Hospital or Health Facility	64	64	88	72	104
University and College Clinic	217	82	378		368
Public School Speech and Hearing Program	893	75	2,552	74	2,632
Other	104	69	200	61	190
			3,706		3,917

immediate need for speech clinicians. In all, 768 of the 1629 facilities reported an immediate need for 1178 audiologists. The five-year projection was that facilities would be needing 1276 audiologists in addition to their present staff and the number reported as being needed immediately.

While 1178 additional certified audiologists being needed immediately does not seem too large, it represents a more than 50% increase over the number presently available (Fricke, Bruder, and Watts, 1969). The figure is also impressive in that each audiologist works with a wide array of equipment representing a sizable capital outlay.

The relatively few schools that indicated both immediate and projected needs for audiologists is not surprising, since a very small percentage of the school systems currently employ audiologists. In the last survey of ASHA Members working in elementary and secondary schools, only 85 of the 2162 responding had certification in audiology (Fricke and Johnson, 1969).

Reasons for Needing Additional Manpower. Tables 29 and 30 are the results of two follow-up questions asked of those programs which indicated a need for additional certified speech clinicians and audiologists (Table 27 and Table 28). The questions asked why additional professional staff were needed. In both tables the greatest single reason for needing additional personnel was "to meet the need for increased services." "To fill existing vacancies" was the second largest single response from the programs needing speech clinicians, and "to meet a need for new services" was also listed as an important reason.

Barriers to Expansion of Services. Table 31 shows the responses to a question concerning the major barrier to expansion of services. Seven barriers were listed: (1) lack of financial support for added personnel, (2) lack of financial support for added equipment, (3) lack of financial support for added space, (4) lack of qualified persons available for enlarging staff, (5) lack of persons requesting services, (6) restrictive administrative policy, and (7) other barriers.

Lack of financial support for additional personnel was the major barrier for more than 30% of the community speech and hearing centers, university and college clinics, and public school speech and hearing programs. Forty-four percent of the university hospitals or health facilities reported that the major barrier to their expansion was lack of financial support for added space. Lack of qualified persons available for enlarging the staff was listed as the major barrier by 26% of the community speech and hearing centers and "other" facilities.

Table 28. Immediate and projected future 5-year needs for full-time audiologists who either possess or have completed the requirements for a Certificate of Clinical Competence as reported by directors of clinical facilities and public school speech and hearing programs. The figures indicated under PROJECTED NEEDS ARE separate from and in addition to those under IMMEDIATE NEEDS.

TYPE OF FACILITY	N	IMMEDIATE PERSONNEL NEEDS Percentage of Programs Indicating Need	IMMEDIATE PERSONNEL NEEDS Number of Clinicians Needed	5-YR PROJECTED PERSONNEL NEEDS Percentage of Programs Indicating Need	5-YR PROJECTED PERSONNEL NEEDS Number of Clinicians Needed
Community Speech and Hearing Center	117	52%	82	69%	120
Non-University Hospital or Health Facility	234	43	118	57	169
University Hospital or Health Facility	64	56	57	72	86
University and College Clinic	217	68	192	79	240
Public School Speech and Hearing Program	893	41	652	37	582
Other	104	54	77	53	79
			1,178		1,276

Table 29. Percent of those clinical facilities and public school speech and hearing programs surveyed indicating the following reasons for needing additional certified speech pathologists (see Table 27). The specific reasons listed across the top of the table are: (1) to fill existing vacancies; (2) to meet need for increased services; (3) to meet need for new services; (4) combination of reasons 1 and 2; (5) combination of reasons 1 and 3; (6) combination of reasons 2 and 3; (7) combinations with other reasons. In this table percentages are not additive since it was possible to indicate more than one reason.

TYPE OF FACILITY	REASONS FOR NEEDING ADDITIONAL PERSONNEL						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Community Speech and Hearing Center	38.4%	84.9%	26.7%	8.1%	47.7%	0.0%	1.2%
Non-University Hospital or Health Facility	34.6	77.6	18.6	6.4	35.3	6.4	1.3
University Hospital or Health Facility	32.6	76.1	21.7	4.3	50.0	4.3	0.0
University and College Clinic	29.7	78.6	15.6	6.8	47.9	16.1	1.6
Public School Speech and Hearing Program	6.8	26.9	3.0	22.1	1.8	19.9	16.3
Other	36.1	75.9	19.3	6.0	42.2	2.4	1.2

Table 30. Percent of those clinical facilities and public school speech and hearing programs surveyed indicating the following reasons for needing additional audiologists (see Table 28). The specific reasons listed across the top of the table are: (1) to fill existing vacancies; (2) to meet need for increased services; (3) to meet need for new services; (4) combination of reasons 1 and 2; (5) combination of reasons 1 and 3; (6) combination of reasons 2 and 3; (7) combinations with other reasons. In this table percentages are not additive since it was possible to indicate more than one reason.

TYPE OF FACILITY	REASONS FOR NEEDING ADDITIONAL PERSONNEL						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Community Speech and Hearing Center	7.0%	32.6%	5.8%	4.7%	27.9%	2.3%	0.0%
Non-University Hospital or Health Facility	5.8	17.3	3.8	1.9	18.6	1.3	0.0
University Hospital or Health Facility	4.3	26.1	0.0	0.0	23.9	2.2	0.0
University and College Clinic	8.3	27.1	2.6	2.6	28.1	4.7	0.5
Public School Speech and Hearing Program	3.0	9.4	15.9	4.7	1.1	12.8	5.1
Other	9.6	26.5	6.0	1.2	18.1	1.2	1.2

Table 31. Responses, in percentages, from the directors of clinical facilities and public school speech and hearing programs indicating THE MAJOR BARRIER to the expansion of their speech, hearing, and language service program. The factors listed as major barriers across the top of the table are: (1) lack of financial support for added personnel; (2) lack of financial support for added equipment; (3) lack of financial support for added space; (4) lack of qualified persons available for enlarging staff; (5) lack of persons requesting services; (6) restrictive administrative policy; (7) other barriers; and (8) no answer.

TYPE OF FACILITIES		MAJOR BARRIER TO EXPANSION OF SERVICES							
	N	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Community Speech and Hearing Center	117	38 %	3%	17%	26%	4%	0%	2%	10%
Non-University Hospital or Health Facility	239	23	3	26	17	3	11	5	12
University Hospital or Health Facility	64	18	0	44	19	4	4	0	11
University and College Clinic	217	39	4	17	15	2	11	4	8
Public School Speech and Hearing Programs	893	31	4	14	22	2	9	2	16
Other	104	27	5	15	26	3	3	5	16

EDUCATIONAL LEVELS NEEDED TO PERFORM SPECIFIC TASKS IN SPEECH PATHOLOGY AND AUDIOLOGY

Critical manpower shortages exist in many professions. In order to provide additional services, some disciplines have begun to utilize supportive or auxiliary personnel to assume certain tasks previously performed only by the professional. The field of nursing originally developed as a result of medicine's need for personnel to assume less specialized tasks. Nursing now has its own hierarchy of supportive personnel. Dentistry was one of the first disciplines to systematically examine the role of its own professional and to create a logical place for auxiliary aides in the dentist's office. These aides gave the dentist more time for complex and specialized rehabilitative procedures and allowed him to see a greater number of patients each day.

If supportive personnel are to contribute clinical services in speech and hearing, it is necessary to quantify the attitudes of professionals regarding those duties and responsibilities which are appropriate for less highly trained individuals. One of the purposes of this manpower study was to explore these attitudes.

Before initiation of the study it was predicted that one of two diverse results might be achieved in measuring professionals' attitudes in this way. One possibility was that professionals might recognize a variety of different tasks as requiring less than professional training. If this was found to be the case, the role of supportive personnel in the provision of clinical services would be fairly well delineated. Training institutions could use this information as the basis for their programs of practical and theoretical instruction for auxiliary aides.

On the other hand there was also a possibility that the professionals might not recognize any of the tasks they perform as being assumable by persons with less training. This kind of result might indicate the need for clinicians in speech and hearing to be made aware of the ways in which supportive personnel have been utilized in other fields.

Regardless of the outcome, determining professionals' attitudes toward supportive personnel was thought to be an important intermediate step between the Association's formulation of policies and guidelines for the utilization of auxiliary aides, and their actual utilization on a large-scale basis.

In this section of the report, Tables 32-67 reveal the results of questions asked of the directors of clinical service programs regarding the education required to perform specific speech, hearing, and language tasks. These specific duties and responsibilities have been placed into six general groups: Records and Reports (Tables 32-37); Speech and Language Diagnosis (Tables 38-43); Speech and Language Habilitation and Rehabilitation (Tables 44-49); Hearing Diagnosis (Tables 50-55); Hearing Habilitation and Rehabilitation (Tables 56-61); and Counseling and Indoctrination (Tables 62-67).

Six separate tables appear within each general group. The first table depicts the combined opinions of the directors of 741 clinical service facilities regarding the educational level required to perform the specific tasks in the six groups. The second, third, fourth, and fifth tables in each group subdivide the responses shown in the first table according to the specific type of facility. The second table reports the results of the information gathered from the directors of 117 community speech and hearing centers; the third table shows the data from the directors of 239 nonuniversity hospitals or health facilities; the fourth table shows the results from the directors of 63 university hospitals or health facilities; and in the fifth table the data from the directors of 217 college or university speech and hearing programs are reported. The sixth table in each group shows the responses from the directors of 893 public school speech and hearing programs.

For each specific task, the respondents were asked to indicate the minimun level of training essential for adequate performance. Five choices were provided: (1) no formal college training in speech and hearing; (2) college training to less than the bachelor's level in speech and hearing; (3) a bachelor's degree in speech and hearing or a master's candidate; (4) professional only; and (5) don't know.

Although not specifically stated in the questionnaire, it was implied that the response choice "none" indicated that the respondent felt that this specific task could be performed only by a professional. The tables use the phrase "professional only" rather than "none," and the following discussion also employs this interpretation.

Results. The data from Tables 32-67 are largely self-explanatory. This discussion will serve only to highlight certain trends which have been observed. The reader is urged to examine the tables carefully in light of his own background in the field.

Examine first Tables 32, 38, 44, 50, 56, and 62, where the combined attitudes of the directors of 741 clinical facilities are reported for the six categories of duties and responsibilities. One can see that the majority of the respondents indicated the person with a bachelor's degree (or a master's candidate) in speech and hearing has the minimum requirements necessary for the performance of virtually all tasks, under appropriate supervision. Stated in another way, very few tasks which are routinely performed in the speech and hearing clinic were thought of as being possible for persons with less than a bachelor's degree in this field, even under appropriate supervision.

This finding suggests that directors of clinical facilities have an unrealistic attitude regarding the utilization of supportive personnel in speech pathology and audiology.

For example, in Table 50, Hearing Diagnosis, responses concerning the minimum level of education required for performance of specific audiometric tests are shown. For puretone audiometric tests (air conduction) 12% indicated no formal college training was necessary; 39% said college training in speech and hearing to less than the bachelor's degree was required; 40% indicated the bachelor's degree was essential; and 5% reported that only the professional should perform these tests.

Item #12 from that same table refers to the tone decay audiometric test, certainly no more difficult, operationally, to perform than the puretone air conduction test. Here 5% of the respondents said no formal college training was essential; 7% indicated college training to less than a bachelor's degree as being essential; 53% reported bachelor's level training as necessary; and 26% said that only the professional could do it.

Similar results can be seen in comparing other specific items from the six tables under consideration.

In general, the attitudes of directors of the four types of clinical facilities shown in the second, third, fourth, and fifth tables of each group were similar to the combined attitudes, as shown in the first table of each group.

The sixth table of each group, where the attitudes of 893 directors of public school speech and hearing programs are shown, differed somewhat from the other five tables in the group. Generally a greater percentage of the directors of school programs reported that bachelor's level training was the minimum level necessary to perform more of the specific tasks than did the directors of other types of service facilities. There was a corresponding reduction in the percentage of responses to the choices "professional only," "college training in speech pathology and audiology to less than a bachelor's degree," and "no formal college training in speech pathology and audiology," by the directors of these school programs.

The basic impression gained from Tables 32-67 is that the respondents are unsophisticated in regard to the use of supportive personnel in the provision of speech, hearing, and language services. Apparently, introduction of significant numbers of auxiliary aides into the field needs to be preceded by an educational campaign for working professionals, both clinicians and clinic directors, showing the potential benefits these individuals can have for the delivery of services.

An attempt is currently under way to determine if the attitudes expressed by the directors of clinical service programs regarding the use of supportive personnel are accurate, as demonstrated in the tables of this section, or whether an artifact was inadvertantly introduced through the phrasing or mechanical lay-out of the questionnaire.

Table 32 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: RECORDS AND REPORTS

TASKS	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	96	13.0	210	28.3	331	44.1	81	10.9	23	3.1
2. Preparing reports to other agencies or individuals about patients	34	4.6	90	12.1	445	60.1	151	20.4	21	2.8
3. Daily or weekly logs on patients	131	17.7	303	40.9	250	33.7	31	4.2	26	3.5
4. Lesson plans	0	0.0	275	37.1	367	49.5	64	8.6	35	4.8

Table 33 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the category: RECORDS AND REPORTS.

TASKS	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	23	19.7	36	30.8	43	36.8	11	9.4	4	3.3
2. Preparing reports to other agencies or individuals about patients	8	6.8	17	14.5	69	59.0	19	16.2	4	3.5
3. Daily or weekly logs on patients	24	20.5	43	36.8	39	33.3	4	3.4	7	6.0
4. Lesson plans	0	0.0	34	29.1	64	54.7	12	10.3	7	5.9

Table 34 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: RECORDS AND REPORTS.

	EDUCATIONAL LEVEL									
TASKS	No formal college training in speech & hearing		Less than a BA in speech & hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	35	14.6%	56	23.4%	115	48.1%	25	10.5%	8	3.4%
2. Preparing reports to other agencies or individuals about patients	14	5.9	21	8.8	156	65.3	42	17.6	6	2.4%
3. Daily or weekly logs on patients	46	19.2	81	33.9	94	39.3	11	4.6	7	3.0
4. Lesson plans	0	0.0	78	32.6	127	53.1	22	9.2	12	5.1

Table 35 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: RECORDS AND REPORTS.

TASKS	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	9	14.1	14	21.9	26	40.6	12	18.8	3	4.6
2. Preparing reports to other agencies or individuals about patients	1	1.6	5	7.8	38	59.4	16	25.0	4	6.2
3. Daily or weekly logs on patients	11	17.2	16	25.0	28	43.8	6	9.4	3	4.6
4. Lesson plans	0	0	9	14.1	37	57.8	12	18.8	6	9.3

Table 36 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the category: RECORDS AND REPORTS

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	12	5.5%	75	34.6%	107	49.3%	20	9.2%	3	1.4%
2. Preparing reports to other agencies or individuals about patients	7	3.2	35	16.1	123	56.7	50	23.0	2	1.0
3. Daily or weekly logs on patients	28	12.9	121	55.8	59	27.2	7	3.2	2	0.9
4. Lesson plans	0	0.0	115	53.0	88	40.6	10	4.6	4	1.8

Table 37 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: RECORDS AND REPORTS.

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Taking case histories on patients	152	17	261	29.2	404	45.2	43	4.8	33	3.8
2. Preparing reports to other agencies or individuals about patients	70	7.8	168	18.8	558	62.5	70	7.8	27	3.1
3. Daily or weekly logs on patients	110	12.3	309	34.6	389	43.6	34	3.8	51	5.7
4. Lesson plans	36	4.0	227	25.4	536	60.0	59	6.6	35	4.0

Table 38 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE DIAGNOSIS

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	52	7.0%	287	38.7%	340	45.9%	33	4.5%	29	3.9%
2. Screening for language problems	30	4.0	171	23.1	445	60.1	68	9.2	27	3.6
3. Examining oral mechanism	26	3.5	140	18.9	443	58.4	104	14.0	38	5.2
4. Administrating complete tests for articulation problems	23	3.1	205	27.7	426	57.5	63	8.5	24	3.2
5. Testing for voice problems	16	2.2	74	10.0	473	63.8	143	19.3	35	4.7
6. Testing for aphasia and related problems	18	2.4	32	4.3	487	65.7	174	23.5	30	4.1
7. Testing for language development	18	2.4	111	15.0	460	62.1	122	16.5	30	4.0
Testing for stuttering behavior	13	1.8	85	11.5	[illegible]79	64.6	127	17.1	37	5.0

Table 38 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Evaluating speech problems of persons with cleft palate or lip	14	1.9%	73	9.9%	469	63.3%	151	20.4%	34	4.5%
10. Evaluating speech problems of persons with cerebral palsy	14	1.9	44	5.9	485	65.5	161	21.7	37	5.0
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	15	2.0	21	2.8	425	57.4	215	29.0%	65	8.8%
12. Evaluating speech problems of the mentally retarded	16	2.2	87	11.7	467	63.0	134	18.1	37	5.0
13. Evaluating speech problems of individuals with hearing handicaps	17	2,3	76	10.3	483	65.2	138	18.6	27	3.6

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Table 38 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
14. Evaluating speech problems of individuals with emotional disorders	16	2.2	20	2.7	418	56.4	245	33.1	42	5.6
15. Evaluating speech problems of individuals with special learning disabilities	15	2.0	33	4.5	438	59.1	215	29.0	40	5.4
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	14	1.9	28	3.8	422	57.0	240	32.4	37	4.9
17. Preparation of equipment, apparatus, or materials for any of the items 1-16	239	32.3	213	28.7	216	29.1	38	5.1	35	4.8

Table 39 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND DIAGNOSIS

	EDUCATIONAL LEVEL									
TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	12	10.3%	43	36.8%	49	41.9%	3	2.6%	10	8.4%
2. Screening for language problems	9	7.7	25	21.4	66	56.4	9	7.7	8	6.8
3. Examining oral mechanism	4	3.4	23	19.7	70	59.8	11	9.4	9	7.7
4. Administrating complete tests for articulation problems	5	4.3	28	23.9	65	55.6	12	10.3	7	5.9
5. Testing for voice problems	5	4.3	8	6.8	73	62.4	25	21.4	6	5.1
6. Testing for aphasia and related problems	5	4.3	5	4.3	73	62.4	28	23.9	6	5.1
7. Testing for language development	7	6.0	14	12.0	71	60.7	19	16.2	6	5.1
8. Testing for stuttering behavior	3	2.6	11	9.4	74	63.2	22	18.8	7	6.0

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Table 39 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Evaluating speech problems of persons with cleft palate or lip	7	2.6	8	6.8	73	62.4	24	20.5	9	7.7
10. Evaluating speech problems of persons with cerebral palsy	3	2.6	5	4.3	78	66.7	24	20.5	7	5.9
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	3	2.6	0	0.0	71	60.7	32	27.4	11	9.3
12. Evaluating speech problems of the mentally retarded	3	2.6	10	8.5	74	63.2	23	19.7	7	6.0
13. Evaluating speech problems of individuals with hearing handicaps.	4	3.4	5	4.3	81	69.2	23	19.7	4	3.4
14. Evaluating speech problems of individuals with emotional disorders	4	3.4	0	0.0	67	57.3	37	31.6	9	7.7

Table 39 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
15. Evaluating speech problems of individuals with special learning disabilities	3	2.6	3	2.6	69	59.0	35	29.9	7	5.9
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	4	3.4	5	4.3	73	62.4	30	25.6	5	4.3
17. Preparation of equipment, apparatus, or materials for any of the items 1-16	41	35.0	30	25.6	33	28.2	6	5.1	7	6.1

Table 40 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE DIAGNOSIS

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	11	4.6	74	31.0	131	54.8	15	6.3	8	3.3
2. Screening for language problems	7	2.9	39	16.3	157	65.7	28	11.7	8	3.4
3. Examining oral mechanism	9	3.8	36	15.1	146	61.1	39	16.3	9	3.7
4. Administrating complete tests for articulation problems	7	2.9	58	24.3	144	60.3	24	10.0	6	2.5
5. Testing for voice problems	5	2.1	17	7.1	164	68.6	44	18.4	9	3.8
6. Testing for aphasia and related problems	7	2.9	6	2.5	163	68.2	55	23.0	8	3.4
7. Testing for language development	6	2.5	30	12.6	146	61.1	47	19.7	10	4.1

Table 40 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
8. Testing for stuttering behavior	4	1.7	21	8.8	161	67.4	43	18.0	10	4.1
9. Evaluating speech problems of persons with cleft palate or lip	5	2.1	18	7.5	157	65.7	50	20.9	9	3.8
10. Evaluating speech problems of persons with cerebral palsy	6	2.5	9	3.8	160	66.9	53	22.2	11	4.6
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	7	2.9	7	2.9	140	58.6	68	28.5	17	7.1
12. Evaluating speech problems of the mentally retarded	6	2.5	23	9.6	154	64.4	47	19.7	9	3.8

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Table 40 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Evaluating speech problems of individuals with hearing handicaps	5	2.1	16	6.7	161	67.4	49	20.5	8	3.3
14. Evaluating speech problems of individuals with emotional disorders	6	2.5	6	2.5	141	59.0	77	32.2	9	3.8
15. Evaluating speech problems of individuals with special learning disabilities	6	2.5	8	3.3	143	59.8	71	29.7	11	4.7
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	6	2.5	5	2.1	136	56.9	84	35.1	8	3.4
17. Preparation of equipment, apparatus, or materials for any of the items 1-16	82	34.3	68	28.5	70	29.3	10	4.2	9	3.7

Table 41 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE DIAGNOSIS.

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	5	7.8	24	37.5	27	42.2	4	6.3	4	6.2
2. Screening for language problems	2	3.1	14	21.9	38	59.4	6	9.4	4	6.2
3. Examining oral mechanism	3	4.7	3	4.7	38	59.4	13	20.3	7	10.9
4. Administrating complete tests for articulation problems	3	4.7	14	21.9	36	56.3	7	10.9	4	6.2
5. Testing for voice problems	2	3.1	2	3.1	37	57.8	16	25.0	7	11.0
6. Testing for aphasia and related problems	2	3.1	1	1.6	37	57.8	19	29.7	5	7.8
7. Testing for language development	1	1.6	6	9.4	39	60.9	14	21.9	4	6.2
8. Testing for stuttering behavior	2	3.1	3	4.7	38	59.4	14	21.9	7	10.9

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Table 41 (Continued)

TASKS	No formal college training in speech & hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Evaluating speech problems of persons with cleft palate or lip	2	3.1	4	6.3	37	57.8	16	25.0	5	7.8
10. Evaluating speech problems of persons with cerebral palsy	2	3.1	2	3.1	36	56.3	18	28.1	6	9.4
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	2	3.1	0	0	32	50.0	23	35.9	7	11.0
12. Evaluating speech problems of the mentally retarded	3	4.7	6	9.4	35	54.7	14	21.9	6	9.3
13. Evaluating speech problems of individuals with hearing handicaps	3	4.7	5	7.8	36	56.3	16	25.0	4	6.2

Table 41 - (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
14. Evaluating speech problems of individuals with emotional disorders	2	3.1	1	1.6	30	46.9	25	39.1	6	9.3
15. Evaluating speech problems of individuals with special learning disabilities	3	4.7	1	1.6	28	43.8	25	39.1	7	10.8
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	1	1.6	2	3.1	26	40.6	28	43.8	7	10.9
17. Preparation of equipment, apparatus or materials for any of the items 1-16	20	31.3	12	18.8	19	29.7	8	12.5	5	7.7

Table 42 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE DIAGNOSIS

	EDUCATIONAL LEVEL									
TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	19	8.8%	110	50.7%	81	37.3%	6	2.8%	1	0.4%
2. Screening for language problems	9	4.1	67	30.9	124	57.1	16	7.4	1	0.5
3. Examining oral mechanism	7	3.2	67	30.9	113	52.1	26	12.0	4	1.8
4. Administrating complete tests for articulation problems	6	2.8	79	36.4	117	53.9	14	6.5	1	0.4
5. Testing for voice problems	2	0.9	41	18.9	128	59.0	43	19.8	3	1.4
6. Testing for aphasia and related problems	2	0.9	18	8.3	148	68.2	47	21.7	2	0.9
7. Testing for language development	2	0.9	52	24.0	135	62.2	26	12.0	2	0.9

Table 42 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
8. Testing for stuttering behavior	2	0.9	45	20.7	136	62.7	31	14.3	3	1.4
9. Evaluating speech problems of persons with cleft palate or lip	2	0.9	36	16.6	135	62.2	42	19.4	2	0.9
10. Evaluating speech problems of persons with cerebral palsy	1	0.5	24	11.1	144	66.4	45	20.7	3	1.3
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	1	0.5	12	5.5	123	56.7	67	30.9	14	6.4
12. Evaluating speech problems of the mentally retarded	2	0.9	40	18.4	134	61.8	35	16.1	6	2.8

[continued on page 94]

Table 42 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Evaluating speech problems of individuals with hearing handicaps	3	1.4	41	18.9	136	62.7	34	15.7	3	1.3
14. Evaluating speech problems of individuals with emotional disorders	2	0.9	12	5.5	121	55.8	75	34.6	7	3.2
15. Evaluating speech problems of individuals with special learning disabilities	1	0.5	17	7.8	132	60.8	60	27.6	7	3.3
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	1	0.5	13	6.0	125	57.6	70	32.3	8	3.6
17. Preparation of equipment, apparatus, or materials for any of the items 1-16	65	30.0	78	35.9	60	27.6	9	4.1	5	2.4

TABLE 43 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE DIAGNOSIS

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Screening for speech problems	44	4.9%	305	34.2%	493	55.2%	32	3.6%	19	2.1%
2. Screening for language problems	29	3.2	197	22.1	576	64.5	58	6.5	33	3.7
3. Examining oral mechanism	41	4.6	151	16.9	591	66.2	71	8.0	39	4.3
4. Administrating complete tests for articulation problems	26	2.9	174	19.5	623	69.8	47	5.3	23	2.5
5. Testing for voice problems	23	2.6	111	12.4	671	75.1	65	7.3	23	2.6

[continued on page 96]

Table 43 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
6. Testing for aphasia and related problems	22	2.5	40	4.5	630	70.5	153	17.1	48	5.4
7. Testing for language development	23	2.6	141	15.8	643	72.0	56	6.3	30	3.3
8. Testing for stuttering behavior	18	2.0	113	12.7	688	77.0	52	5.8	22	2.5
9. Evaluating speech problems of persons with cleft palate or lip	17	1.9	80	9.0	700	78.4	73	8.2	23	2.5
10. Evaluating speech problems of persons with cerebral palsy	18	2.0	67	7.5	677	75.8	94	10.5	37	4.2

Table 43 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	19	2.1	22	2.5	558	62.5	175	19.6	119	13.3
12. Evaluating speech problems of the mentally retarded	16	1.8	97	10.9	690	77.3	64	7.2	26	2.8
13. Evaluating speech problems of individuals with hearing handicaps	16	1.8	87	9.7	691	77.4	77	8.6	22	2.5
14. Evaluating speech problems of individuals with emotional disorders	22	2.5	42	4.7	626	70.1	146	16.3	57	6.4
15. Evaluating speech problems of individuals with special learning disabilities	18	2.0	54	6.0	647	72.5	120	13.4	54	6.1

[continued on page 98]

Table 43 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	17	1.9	76	8.5	639	71.6	115	12.9	46	5.1
17. Preparation of equipment, apparatus, or materials for any of the items 1-16.	258	28.9	277	31.0	279	31.2	26	2.9	53	6.0

Table 44 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	51	6.9	277	37.4	344	46.4	40	5.4	29	4.0
2. Therapy for stutterers	15	2.0	88	11.9	466	62.9	136	18.4	26	4.8
3. Speech correction for dysphonias(malfunctions of voice-harshness, hoarseness, breathiness)	19	2.6	85	11.5	463	62.5	140	18.9	34	4.5
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	44	5.9	57	7.7	389	52.5	195	26.3	56	7.6
5. Esophageal speech lessons for laryngectomees	48	6.5	80	10.8	407	54.9	147	19.8	59	8.0
6. Speech correction for persons with cleft palate	21	2.8	139	18.8	459	61.9	90	12.1	32	4.4

[continued on page 100]

Table 44 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
7. Speech correction for persons with hyper- or hypo-nasality	22	3.0	158	21.3	438	59.1	96	13.0	27	3.6
8. Speech correction for persons with cerebral palsy	19	2.6	117	15.8	465	62.8	107	14.4	33	4.4
9. Speech or language correction (or instruction) for persons with aphasia	26	3.5	74	10.0	482	65.0	129	17.4	30	4.1
10. Speech or language correction (or instruction) for persons with special learning disabilities	28	3.8	83	11.2	445	60.1	140	18.9	45	6.0
11. Speech or language correction (or instruction) for persons with mental retardation	40	5.4	188	25.4	401	54.1	77	10.4	35	4.7
12. Speech or language correction (or instruction) for persons with hearing handicaps	25	3.4	146	19.7	462	62.3	84	11.3	24	3.3

Table 44 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech & hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Speech or language correction (or instruction) for persons with emotional disorders	24	3.2	47	6.3	414	55.9	197	26.6	59	8.0
14. Speech or language correction (or instruction) for dialects or bilingual problems	43	5.8	227	30.6	363	49.0	57	7.7	51	6.9
15. Speech improvement lessons	105	14.2	352	47.5	214	28.9	21	2.8	49	6.6
16. Tongue thrust or abnormal swallowing correction procedures	59	8.0	199	26.9	323	43.6	68	9.2	92	12.3
17. Language development for culturally deprived	97	13.1	286	38.6	255	34.4	44	5.9	59	8.0
18. Preparation of equipment, apparatus, or materials for any of the items 1-17	260	35.1	222	30.0	189	25.5	33	4.5	37	4.9

Table 45 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	12	10.3	40	34.2	57	48.7	2	1.7	6	5.1
2. Therapy for stutterers	4	3.4	12	10.3	72	61.5	22	18.8	7	6.0
3. Speech correction for dysphonias (malfunctions of voice-harshness, hoarseness, breathiness)	5	4.3	7	6.0	75	64.1	22	18.8	8	6.8
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	12	10.3	8	6.8	56	47.9	29	24.8	12	10.2
5. Esophageal speech lessons for laryngectomees	12	10.3	15	12.8	57	48.7	22	18.8	11	9.4

Table 45 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
6. Speech correction for persons with cleft palate	5	4.3	17	14.5	75	64.1	14	12,0	6	5.1
7. Speech correction for persons with hyper-or hypo-nasality	6	5.1	20	17.1	68	58.1	18	15.4	5	4.3
8. Speech correction for persons with cerebral palsy	5	4.3	13	11.1	73	62.4	16	13.7	10	8.5
9. Speech or language correction (or instruction) for persons with aphasia	7	6.0	13	11.1	70	59.8	20	17.1	7	6.0
10. Speech or language correction (or instruction) for persons with special learning disabilities	7	6.0	12	10.3	65	55.6	24	20.5	9	7.6
11. Speech or language correction (or instruction) for persons with mental retardation	8	6.8	29	24.8	60	51.3	13	11.1	7	6.0

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Table 45 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
12. Speech or language correction (or instruction) for persons with hearing handicaps	7	6.0	14	12.0	78	66.7	15	12.8	3	2.5
13. Speech or language correction (or instruction) for persons with emotional disorders	6	5.1	4	3.4	62	53.0	30	25.6	15	12.9
14. Speech or language correction (or instruction) for dialects or bilingual problems	8	6.8	26	22.2	61	52.1	10	8.5	12	10.4
15. Speech improvement lessons	23	19.7	44	37.6	36	30.8	2	1.7	12	10.2
16. Tongue thrust or abnormal swallowing correction procedures	13	11.1	31	26.5	50	42.7	8	6.8	15	12.9

Table 45 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
17. Language development for culturally deprived	20	17.1	44	37.6	35	29.9	4	3.4	14	12.0
18. Preparation of equipment, apparatus, or materials for any of the items 1-17	44	37.6	33	28.2	27	23.1	6	5.1	7	6.0

Table 46 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	15	6.3	80	33.5	119	49.8	18	7.5	7	2.9
2. Therapy for stutterers	4	1.7	17	7.1	158	66.1	50	20.9	10	4.2
3. Speech correction for dysponias (malfunctions of voice-harshness, hoarseness, breathiness)	7	2.9	18	7.5	156	65.3	50	20.9	8	3.4
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	13	5.4	14	5.9	136	56.9	60	25.1	16	6.7
5. Esophageal speech lessons for laryngectomees	13	5.4	19	7.9	136	56.9	53	22.2	18	7.6
6. Speech correction for persons with cleft palate	7	2.9	32	13.4	155	64.9	35	14.6	10	4.2

Table 46 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
7. Speech correction for persons with hyper- or hypo-nasality	7	2.9	40	16.7	151	63.2	33	13.8	8	3.4
8. Speech correction for persons with cerebral palsy	8	3.3	30	12.6	157	65.7	36	15.1	8	3.3
9. Speech or language correction (or instruction) for persons with aphasia	10	4.2	17	7.1	156	65.3	48	20.1	8	3.3
10. Speech or language correction (or instruction) for persons with special learning disabilities	9	3.8	19	7.9	146	61.1	52	21.8	13	5.4
11. Speech or language correction (or instruction) for persons with hearing handicaps	13	5.4	50	20.9	138	57.7	28	11.7	10	4.3
12. Speech or language correction (or instruction) for persons with hearing handicaps	8	3.3	35	14.6	158	66.1	32	13.4	6	2.6

[continued on page 108]

Table 46 (Continued)

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Speech or language correction (or instruction) for persons with emotional disorders	11	4.6	13	5.4	137	57.3	65	27.2	13	5.5
14. Speech or language correction (or instruction) for dialects or bilingual problems	13	5.4	64	26.8	124	51.9	23	9.6	15	6.3
15. Speech improvement lessons	28	11.7	112	46.9	74	31.0	10	4.2	15	6.2
16. Tongue thrust or abnormal swallowing correction procedures	15	6.3	57	23.8	118	49.4	22	9.2	27	11.3
17. Language development for culturally deprived	30	12.6	86	36.0	88	36.8	19	7.9	16	6.7
18. Preparation of equipment, apparatus, or materials for any of the items 1-17	90	37.7	72	30.1	60	25.1	9	3.8	8	3.3

Table 47 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don's know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	3	4.7	14	21.9	31	48.4	10	15.6	6	9.4
2. Therapy for stutterers	2	3.1	1	1.6	39	60.9	16	25.0	6	9.4
3. Speech correction for dysphonias (malfunctions of voice-harshness, hoarseness, breathiness)	2	3.1	4	6.3	34	53.1	19	29.7	5	7.8
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	5	7.8	7	10.9	30	46.9	15	23.4	7	11.0
5. Esophageal speech lessons for laryngectomees	3	4.7	7	10.9	34	53.1	13	20.3	7	11.0
6. Speech correction for persons with cleft palate	2	3.1	8	12.5	35	54.7	14	21.9	5	7.8

[continued on page 110]

Table 47 (Continued)

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
7. Speech correction for persons with hyper- or hypo-nasality	1	1.6	9	14.1	33	51.6	16	25.0	5	7.7
8. Speech correction for persons with cerebral palsy	1	1.6	6	9.4	36	56.3	16	25.0	5	7.7
9. Speech or language correction (or instruction) for persons with aphasia	2	3.1	3	4.7	39	60.9	15	23.4	5	7.9
10. Speech or language correction (or instruction) for persons with special learning disabilities	3	4.7	4	6.3	32	50.0	18	28.1	7	10.9
11. Speech or language correction (or instruction) for persons with mental retardation	4	6.3	8	12.5	33	51.6	13	20.3	6	9.3
12. Speech or language correction (or instruction) for persons with hearing handicaps	3	4.7	4	6.3	40	62.5	13	20.3	4	6.2

Table 47 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech & hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Speech or language correction (or instruction) for persons with emotional disorders	2	3.1	2	3.1	30	46.9	21	32.8	9	14.1
14. Speech or language correction (or instruction) for dialects or bilingual problems	6	9.4	19	29.7	24	37.5	7	10.9	8	12.5
15. Speech improvement lessons	9	14.1	23	35.9	20	31.3	3	4.7	9	14.0
16. Tongue thrust or abnormal swallowing correction procedures	9	14.1	10	15.6	25	39.1	8	12.5	12	18.7
17. Language development for culturally deprived	13	20.3	18	28.1	22	34.4	4	6.3	7	10.9
18. Preparation of equipment apparatus, or materials for any of the items 1-17	20	31.3	10	15.6	20	31.3	7	10.9	7	10.9

Table 48 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	12	5.5	108	49.8	89	41.0	6	2.8	2	0.9
2. Therapy for stutterers	3	1.4	50	23.0	127	58.5	34	15.7	3	1.4
3. Speech correction for dysphonias (malfunctions of voice-harshness, hoarseness, breathiness)	3	1.4	43	19.8	131	60.4	38	17.5	2	0.9
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	10	4.6	21	9.7	120	55.3	60	27.6	6	2.8

Table 48 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
5. Esophageal speech lessons for laryngectomees	12	5.5	33	15.2	129	59.4	36	16.6	7	3.3
6. Speech correction for persons with cleft palate	5	2.3	67	30.9	126	58.1	16	7.4	3	1.3
7. Speech correction for persons with hyper-or hypo-nasality	6	2.8	69	31.8	123	56.7	17	7.8	2	0.9
8. Speech correction for persons with cerebral palsy	3	1.4	54	24.9	133	61.3	25	11.5	2	0.9
9. Speech or language correction (or instruction) for persons with aphasia	3	1.4	29	13.4	151	69.6	32	14.7	2	0.9
10. Speech or language correction (or instruction) for persons with special learning disabilities	6	2.8	35	16.1	134	61.8	35	16.1	7	3.2

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Table 48 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
11. Speech or language correction (or instruction) for persons with mental retardation	7	3.2	80	36.9	110	50.7	16	7.4	4	1.8
12. Speech or language correction (or instruction) for persons with hearing handicaps	2	0.9	78	35.9	118	54.4	17	7.8	2	1.0
13. Speech or language correction (or instruction) for persons with emotional disorders	3	1.4	22	10.1	121	55.8	60	27.6	11	5.1
14. Speech or language correction (or instruction) for dialects or bilingual problems	11	5.1	92	42.4	98	45.2	10	4.6	6	2.7
15. Speech improvement lessons	32	14.7	121	55.8	54	24.9	4	1.8	6	2.8

Table 48 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
16. Tongue thrust or abnormal swallowing correction procedures	17	7.8	77	35.5	77	35.5	23	10.6	23	10.6
17. Language development for culturally deprived	24	11.1	97	44.7	74	34.1	11	5.1	11	5.0
18. Preparation of equipment, apparatus, or materials for any of the items 1-17	71	32.7	79	36.4	54	24.9	7	3.2	6	2.8

Table 49 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Speech correction for functional articulation problems	31	3.5	270	30.2	541	60.6	26	2.9	25	2.8
2. Therapy for stutterers	18	2.0	80	9.0	694	77.7	73	8.2	28	3.1
3. Speech correction for dysphonias (malfunctions of voice-harshness, hoarseness, breathiness)	20	2.2	91	10.2	667	74.7	82	9.2	33	3.7
4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	22	2.5	45	5.0	508	56.9	195	21.8	123	13.8
5. Esophageal speech lessons for laryngectomees	18	2.0	49	5.5	544	60.9	176	19.7	106	11.9
6. Speech correction for persons with cleft palate.	16	1.8	108	12.1	687	76.9	58	6.5	24	2.7

Table 49 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
7. Speech correction for persons with hyper-or hypo-nasality	21	2.4	130	14.6	661	74.0	51	5.7	30	3.3
8. Speech correction for persons with cerebral palsy	17	1.9	87	9.7	686	76.8	68	7.6	35	4.0
9. Speech or language correction (or instruction) for persons with aphasia	18	2.0	62	6.9	653	73.1	117	13.1	43	4.9
10. Speech or language correction (or instruction) for persons with special learning disabilities	16	1.8	105	11.8	654	73.2	73	8.2	45	5.0
11. Speech or language correction (or instruction) for persons with mental retardation	24	2.7	174	19.5	624	69.9	41	4.6	30	3.3
12. Speech or language correction (or instruction) for persons with hearing handicaps	21	2.4	112	12.5	686	76.8	44	4.9	30	3.4

[continued on page 118]

Table 49 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
13. Speech or language correction (or instruction) for persons with emotional disorders	20	2.2	70	7.8	642	71.9	108	12.1	53	6.0
14. Speech or language correction (or instruction) for dialects or bilingual problems	31	3.5	234	26.2	539	60.4	38	4.3	51	5.6
15. Speech improvement lessons	116	13.0	439	49.2	282	31.6	22	2.5	34	3.7
16. Tongue thrust or abnormal swallowing correction procedures	53	5.9	203	22.7	511	57.2	55	6.2	71	8.0
17. Language development for culturally deprived	94	10.5	369	41.3	350	39.2	34	3.8	46	5.2
18. Preparation of equipment, apparatus, or materials for any of the items 1-17	282	31.6	277	31.0	257	28.8	22	2.5	55	6.1

Table 50 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

	EDUCATIONAL LEVEL									
TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	235	31.7	272	36.7	194	26.2	14	1.9	26	3.5
2. Pure tone air conduction tests	87	11.7	289	39.0	293	39.5	40	5.4	32	4.4
3. Pure tone bone conduction tests	59	8.0	224	30.2	364	49.1	59	8.0	35	4.7
4. Measurement of speech reception thresholds	48	6.5	164	22.1	410	55.3	74	10.0	45	6.1
5. Measurement of speech discrimination	46	6.2	164	22.1	409	55.2	77	10.4	45	6.1
6. Tolerance tests	46	6.2	91	12.3	423	57.1	128	17.3	53	7.1
7. Tests for functional (non-organic) hearing tests; psychogenic	18	2.4	21	2.8	404	54.5	241	32.5	57	7.8

[continued on page 120]

Table 50 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
8. Galvanic skin (electro-dermal) response audiometry	22	3.0	17	2.3	380	51.3	255	34.4	67	9.0
9. Bekesy automatic audiometry	49	6.6	53	7.2	376	50.7	200	27.0	63	8.5
10. Loudness Balance tests	25	3.4	46	6.2	413	55.7	198	26.7	59	8.0
11. SISI tests	32	4.3	54	7.3	404	54.5	187	25.2	64	8.7
12. Tone decay tests	33	4.5	54	7.3	393	53.0	192	25.9	69	9.3
13. Impedance measurements	17	2.3	13	1.8	350	47.2	258	34.8	103	13.9
14. Electronystagmography tests	19	2.6	15	2.0	270	36.4	286	38.6	151	20.4
15. Electroencephalography tests	24	3.2	11	1.5	268	36.2	308	41.6	130	17.5
16. Screening of newborn	108	14.6	86	11.6	297	40.1	152	20.5	98	13.2
17. Audiometric tests specially designed for children	35	4.7	94	12.7	405	54.7	152	20.5	55	7.4

Table 50 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
18. Interpretation of items 1-17	16	2.2	17	2.3	379	51.1	265	35.8	64	8.6
19. Preparation of equipment, apparatus, or materials for any of items 1-17	177	23.9	178	24.0	239	32.3	74	10.0	73	9.8

Table 51 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

	EDUCATIONAL LEVEL									
TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	46	39.3	39	33.3	25	21.4	2	1.7	5	4.3
2. Pure tone air conduction tests	17	14.5	50	42.7	39	33.3	4	3.4	7	6.1
3. Pure tone bone conduction tests	14	12.0	33	28.2	54	46.2	8	6.8	8	6.8
4. Measurement of speech reception thresholds	12	10.3	17	14.5	75	64.1	7	6.0	6	5.1
5. Measurement of speech discrimination	11	9.4	20	17.1	72	61.5	8	6.8	6	5.2
6. Tolerance tests	10	8.5	11	9.4	71	60.7	17	14.5	8	6.9
7. Tests for functional (non-organic) hearing tests; psychogenic	4	3.4	3	2.6	60	51.3	40	34.2	10	8.5
8. Galvanic skin (electro-dermal) response audiometry	5	4.3	2	1.7	56	47.9	42	35.9	12	10.2

Table 51 (Continued

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Bekesy automatic audiometry	8	6.8	6	5.1	60	51.3	32	27.4	11	9.4
10. Loudness Balance tests	5	4.3	2	1.7	69	59.0	31	26.5	10	8.5
11. SISI tests	7	6.0	3	2.6	67	57.3	28	23.9	12	10.2
12. Tone decay tests	6	5.1	5	4.3	63	53.8	30	25.6	13	11.2
13. Impedance measurements	3	2.6	2	1.7	54	46.2	39	33.3	19	16.2
14. Electronystagmography tests	5	4.3	2	1.7	41	35.0	42	35.9	27	23.1
15. Electroencephalography tests	7	6.0	1	0.9	41	35.0	48	41.0	20	17.1
16. Screening of newborn	26	22.2	14	12.0	45	38.5	18	15.4	14	11.9
17. Audiometric tests specially designed for children	9	7.7	16	13.7	63	53.8	20	17.7	9	7.7

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Table 51 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
18. Interpretation of any of items 1-17	5	4.3	2	1.7	56	47.9	40	34.2	14	11.9
19. Preparation of equipment, apparatus, or materials for any of items 1-17	28	23.9	30	25.6	37	31.6	10	8.5	12	10.4

Table 52 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	62	25.9	87	36.4	79	33.1	4	1.7	7	2.9
2. Pure tone air conduction tests	25	10.5	83	34.7	107	44.8	15	6.3	9	3.7
3. Pure tone bone conduction tests	19	7.9	62	25.9	127	53.1	21	8.8	10	4.3
4. Measurement of speech reception thresholds	15	6.3	43	18.0	131	54.8	31	13.0	19	7.9
5. Measurement of speech discrimination	14	5.9	43	18.0	131	54.8	32	13.4	19	7.9
6. Tolerance tests	16	6.7	21	8.8	139	58.2	44	18.4	19	7.9
7. Tests for functional (non-organic) hearing tests; psychogenic	6	2.5	8	3.3	130	54.4	77	32.2	18	7.6
8. Galvanic skin (electrodermal) response audiometry	8	3.3	4	1.7	119	49.8	84	35.1	24	10.1

[continued on page 126]

Table 52 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Bekesy automatic audiometry	16	6.7	12	5.0	121	50.6	67	28.0	23	9.7
10. Loudness Balance tests	8	3.3	10	4.2	133	55.6	66	27.6	22	9.3
11. SISI tests	9	3.8	13	5.4	132	55.2	62	25.9	23	9.7
12. Tone decay tests	10	4.2	13	5.4	127	53.1	64	26.8	25	10.5
13. Impedance measurements	5	2.1	2	0.8	114	47.7	83	34.7	35	14.7
14. Electronystagmography tests	5	2.1	4	1.7	89	37.2	94	39.3	47	19.7
15. Electroencephalography tests	8	3.3	3	1.3	88	36.8	99	41.4	41	17.2
16. Screening of newborn	29	12.1	22	9.2	101	42.3	54	22.6	33	13.8

Table 52 (Continued

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
17. Audiometric tests specially designed for children	9	3.8	22	9.2	133	55.6	55	23.0	20	8.4
18. Interpretation of any of items 1-17	5	2.1	3	1.3	130	54.4	80	33.5	21	8.7
19. Preparation of equipment, apparatus, or materials for any of items 1-17	58	24.3	45	18.8	93	38.9	20	8.4	23	9.6

Table 53 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	24	37.5	17	26.6	15	23.4	4	6.3	4	6.2
2. Pure tone air conduction tests	10	15.6	19	29.7	25	39.1	5	7.8	5	7.8
3. Pure tone bone conduction tests	3	4.7	18	28.1	30	46.9	8	12.5	5	7.8
4. Measurement of speech reception thresholds	5	7.8	14	21.9	31	48.4	9	14.1	5	7.8
5. Measurement of speech discrimination	4	6.3	15	23.4	31	48.4	9	14.1	5	7.8
6. Tolerance tests	5	7.8	7	10.9	30	46.9	16	25.0	6	9.4
7. Tests for functional (non-organic) hearing tests; psychogenic	2	3.1	0	0	36	56.3	20	31.3	6	9.3

Table 53 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate.		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
8. Galvanic Skin (electro-dermal) response audiometry	2	3.1	1	1.6	32	50.0	23	35.9	6	9.4
9. Bekesy automatic audiometry	6	9.4	4	6.3	31	48.4	18	28.1	5	7.8
10. Loudness Balance tests	3	4.7	6	9.4	30	46.9	20	31.3	5	7.7
11. SISI tests	4	6.3	7	10.9	29	45.3	19	29.7	5	7.8
12. Tone decay tests	4	6.3	6	9.4	29	45.3	20	31.3	5	7.7
13. Impedance measurements	1	1.6	2	3.1	27	42.2	27	42.2	7	10.9
14. Electronystagmography tests	2	3.1	2	3.1	23	35.9	23	35.9	14	22.0
15. Electroencephalography tests	2	3.1	2	3.1	22	34.4	26	40.6	12	18.8
16. Screening of newborn	9	14.1	14	21.9	18	28.1	15	23.4	8	12.5
17. Audiometric tests specially designed for children	2	3.1	5	7.8	29	45.3	22	34.4	6	9.4

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Table 53 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
18. Interpretation of items 1-17	1	1.6	0	0	28	43.8	29	45.3	6	9.3
19. Preparation of equipment apparatus, or materials for any of items 1-17	4	21.9	14	21.9	20	31.3	9	14.1	7	10.8

Table 54 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	71	32.7	94	43.3	46	21.2	2	0.9	4	1.9
2. Pure tone air conduction tests	23	10.6	105	48.4	74	34.1	11	5.1	4	1.8
3. Pure tone bone conduction tests	13	6.0	86	39.6	97	44.7	16	7.4	5	2.3
4. Measurement of speech reception thresholds	9	4.1	72	33.2	113	52.1	17	7.8	6	2.8
5. Measurement of speech discrimination	10	4.6	71	32.7	112	51.6	18	8.3	6	2.8
6. Tolerance tests	9	4.1	39	18.0	125	57.6	35	16.1	9	4.2
7. Tests for functional (non-organic) hearing tests; psychogenic	3	1.4	9	4.1	124	57.1	72	33.2	9	4.2

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Table 54 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
8. Galvanic skin (electro-dermal) response audiometry	4	1.8	9	4.1	123	56.7	71	32.7	10	4.7
9. Bekesy automatic audiometry	13	6.0	24	11.1	116	53.5	54	24.9	10	4.5
10. Loudness Balance tests	6	2.8	22	10.1	124	57.1	57	26.3	8	3.7
11. SISI tests	7	3.2	23	10.6	122	56.2	56	25.8	9	4.2
12. Tone decay tests	8	3.7	23	10.6	119	54.8	56	25.8	11	5.1
13. Impedance measurements	5	2.3	6	2.8	108	49.8	76	35.0	22	10.1
14. Electronystagmography tests	3	1.4	5	2.3	81	37.3	90	41.5	38	17.5
15. Electroencephalography tests	3	1.4	3	1.4	80	36.9	96	44.2	35	16.1
16. Screening of newborn	31	14.3	30	13.8	84	38.7	45	20.7	27	12.5

Table 54 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
17. Audiometric tests specially designed for children	7	3.2	44	20.3	122	56.2	35	16.1	9	4.2
18. Interpretation of any of items 1-17	3	1.4	9	4.1	112	51.6	82	37.8	11	5.1
19. Preparation of equipment, apparatus, or materials for any of items 1-17	53	24.4	64	29.5	62	28.6	23	10.6	15	6.9

Table 55 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING DIAGNOSIS

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Audiometric screening	251	28.1	340	38.1	254	28.4	16	1.8	32	3.6
2. Pure tone air conduction tests	100	11.2	284	31.8	430	48.2	37	4.1	42	4.7
3. Pure tone bone conduction tests	64	7.2	211	23.6	502	56.2	64	7.2	52	5.8
4. Measurement of speech reception thresholds	27	3.0	126	14.1	579	64.8	88	9.9	73	8.2
5. Measurement of speech discrimination	23	2.6	141	15.8	576	64.5	84	9.4	69	7.7
6. Tolerance tests	21	2.4	90	10.1	540	60.5	123	13.8	119	13.2
7. Tests for functional (non-organic) hearing tests; psychogenic	15	1.7	43	4.8	532	59.6	191	21.4	112	12.5
8. Galvanic skin (electrodermal) response audiometry	17	1.9	18	2.0	470	52.6	222	24.9	166	18.6

Table 55 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
9. Bekesy automatic audiometry	18	2.0	37	4.1	473	53.0	195	21.8	170	19.1
10. Loudness Balance tests	17	1.9	49	5.5	491	55.0	174	19.5	162	18.1
11. SISI tests	14	1.6	33	3.7	467	52.3	191	21.4	188	21.0
12. Tone decay tests	13	1.5	38	4.3	465	52.1	194	21.7	183	20.4
13. Impedance measurements	11	1.2	26	2.9	434	48.6	204	22.8	218	24.5
14. Electronystagmography tests	14	1.6	10	1.1	377	42.2	242	27.1	250	28.0
15. Electroencephalography tests	17	1.9	12	1.3	377	42.2	267	29.9	220	24.7
16. Screening of newborn	39	4.4	39	4.4	398	44.6	212	23.7	205	22.9
17. Audiometric tests specially designed for children	34	3.8	110	12.3	542	60.7	106	11.9	101	11.3

[continued on page 136]

Table 55 (Continued)

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
18. Interpretation of any of items 1-17	17	1.9	38	4.3	534	59.8	167	18.7	137	15.3
19. Preparation of equipment, apparatus, or materials for any of items 1-17	179	20.0	218	24.4	293	32.8	64	7.2	139	15.6

Table 56 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION.

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	27	3.6	45	6.1	396	53.4	214	28.9	59	8.0
2. Selection of hearing aid	20	2.7	33	4.5	375	50.6	251	33.9	62	8.3
3. Hearing aid orientation	29	3.9	135	18.2	407	54.9	117	15.8	53	7.2
4. Hearing aid rechecks	31	4.2	101	13.6	383	51.7	160	21.6	66	8.9
5. Auditory training	33	4.5	201	27.1	416	56.1	55	7.4	36	4.9
6. Speechreading (lipreading) lessons	30	4.0	215	29.0	416	56.1	44	5.9	36	5.0
7. Clinical speech training or speech conservation for the hearing handicapped	22	3.0	167	22.5	444	59.9	68	9.2	40	5.4
8. Tutoring or education for hearing handicapped	43	5.8	171	23.1	340	45.9	94	12.7	93	12.5

Table 57 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION.

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	6	5.1	6	5.1	63	53.8	31	26.5	11	9.5
2. Selection of hearing aid	4	3.4	6	5.1	57	48.7	38	32.5	12	10.3
3. Hearing aid orientation	6	5.1	18	15.4	66	56.4	18	15.4	9	7.7
4. Hearing aid rechecks	5	4.3	15	12.8	64	54.7	21	17.9	12	10.3
5. Auditory training	11	9.4	29	24.8	67	57.3	5	4.3	5	4.2
6. Speechreading (lipreading) lessons	9	7.7	30	25.6	69	59.0	4	3.4	5	4.3
7. Clinical speech training or speech conservation for the hearing handicapped	7	6.0	25	21.4	71	60.7	6	5.1	8	6.8
8. Tutoring or education for hearing handicapped	8	6.8	30	25.6	51	43.6	11	9.4	17	14.6

Table 58 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION.

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	8	3.3	12	5.0	127	53.1	70	29.3	22	9.3
2. Selection of hearing aid	5	2.1	8	3.3	117	49.0	86	36.0	23	9.6
3. Hearing aid orientation	8	3.3	40	16.7	131	54.8	38	15.9	22	9.3
4. Hearing aid rechecks	11	4.6	26	10.9	125	52.3	54	22.6	23	9.6
5. Auditory training	9	3.8	51	21.3	145	60.7	21	8.8	13	5.4
6. Speechreading (lipreading) lessons	7	2.9	54	22.6	146	61.1	19	7.9	13	5.5
7. Clinical speech training or speech conservation for the hearing handicapped	6	2.5	32	13.4	161	67.4	26	10.9	14	5.8
8. Tutoring or education for hearing handicapped	13	5.4	43	18.0	112	46.9	40	16.7	31	13.0

Table 59 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION.

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	1	1.6	2	3.1	36	56.3	19	29.7	6	9.3
2. Selection of hearing aid	1	1.6	3	4.7	34	53.1	19	29.7	7	10.9
3. Hearing aid orientation	0	0	13	20.3	32	50.0	13	20.3	6	9.4
4. Hearing aid rechecks	1	1.6	9	14.1	35	54.7	12	18.8	7	10.8
5. Auditory training	1	1.6	12	18.8	36	56.3	10	15.6	5	7.7
6. Speechreading (lipreading) lessons	0	0	17	26.6	35	54.7	7	10.9	5	7.8
7. Clinical speech training or speech consirvation for the hearing handicapped	1	1.6	14	21.9	32	50.0	11	17.9	6	9.3
8. Tutoring or education for hearing handicapped	4	6.3	10	15.6	28	43.8	9	14.1	13	20.2

Table 60 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION.

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	7	3.2	19	8.8	122	56.2	61	28.1	8	3.7
2. Selection of hearing aid	6	2.8	12	5.5	119	54.8	71	32.7	9	4.2
3. Hearing aid orientation	8	3.7	45	20.7	121	55.8	37	17.1	6	2.7
4. Hearing aid rechecks	8	3.7	37	17.1	114	52.5	48	22.1	10	4.6
5. Auditory training	6	2.8	78	35.9	115	53.0	14	6.5	4	1.8
6. Speechreading (lipreading) lessons	7	3.2	86	39.6	111	51.2	10	4.6	3	1.4
7. Clinical speech training or speech conservation for the hearing handicapped	3	1.4	79	36.4	115	53.0	16	7.4	4	1.8
8. Tutoring or education for hearing handicapped	10	4.6	69	31.8	98	45.2	21	9.7	19	8.7

Table 61 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: HEARING HABILITATION AND REHABILITATION

TASKS	EDUCATIONAL LEVEL No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Evaluating hearing aids for their usefulness to patients	24	2.7	59	6.6	485	54.3	199	22.3	126	14.1
2. Selection of hearing aid	25	2.8	47	5.3	446	49.9	228	25.5	147	16.5
3. Hearing aid orientation	36	4.0	149	16.7	502	56.2	98	11.0	108	12.1
4. Hearing aid rechecks	44	4.9	112	12.5	425	47.6	169	18.9	143	16.1
5. Auditory training	27	3.0	185	20.7	594	66.5	36	4.0	51	5.8
6. Speechreading (lipreading lessons	21	2.4	182	20.4	607	68.0	34	3.8	49	5.4
7. Clinical speech training or speech conservation for the hearing handicapped	19	2.1	131	14.7	639	71.6	51	5.7	53	5.9
8. Tutoring or education for hearing handicapped	53	5.9	196	21.9	491	55.0	73	8.2	80	9.0

Table 62 Attitudes of 741 directors of speech and hearing clinical facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	20	2.7	55	7.4	443	59.8	197	26.6	26	3.5
2. Counseling parents or family	19	2.6	43	5.8	445	60.1	207	27.9	27	3.6
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	14	1.9	46	6.2	435	58.7	215	29.0	31	4.2
4. Counseling employers of the handicapped	24	3.2	47	6.3	400	54.0	216	29.1	54	7.4

Table 63 Attitudes of 117 directors of community speech and hearing centers surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	5	4.3	12	10.3	71	60.7	24	20.5	5	4.2
2. Counseling parents or family	6	5.1	11	9.4	70	59.8	25	21.4	5	4.3
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	2	1.7	10	8.5	71	60.7	29	24.8	5	4.3
4. Counseling employers of the handicapped	4	3.4	12	10.3	68	58.1	25	21.4	8	6.8

Table 64 Attitudes of 239 directors of non-university hospital or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	6	2.5	10	4.2	148	61.9	67	28.0	8	3.4
2. Counseling parents or family	6	2.5	9	3.8	145	60.7	71	29.7	8	3.3
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	3	1.3	14	5.9	142	59.4	69	28.9	11	4.5
4. Counseling employers of the handicapped	9	3.8	11	4.6	132	55.2	69	28.9	18	7.5

Table 65 Attitudes of 64 directors of university hospitals or health facilities surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't Know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	1	1.6	2	3.1	34	53.1	24	37.5	3	4.7
2. Counseling parents or family	1	1.6	2	3.1	34	53.1	24	37.5	3	4.7
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	1	1.6	3	4.7	31	48.4	24	37.5	5	7.8
4. Counseling employers of the handicapped	1	1.6	5	7.8	27	42.2	23	35.9	8	12.5

Table 66 Attitudes of 217 directors of university or college programs (excluding university hospitals and medical schools) surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	2	0.9	21	9.7	130	59.9	61	28.1	3	1.4
2. Counseling parents or family	2	0.9	16	7.4	132	60.8	63	29.0	4	1.9
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	3	1.4	15	6.9	125	57.6	70	32.3	4	1.8
4. Counseling employers of the handicapped	5	2.3	13	6.0	118	54.4	73	33.6	8	3.7

Table 67 Attitudes of 893 directors of public schools speech and hearing programs surveyed concerning the educational level of persons who, under appropriate supervision, could be assigned to perform tasks within the general category: COUNSELING OR INDOCTRINATING

TASKS	EDUCATIONAL LEVEL									
	No formal college training in speech and hearing		Less than a BA in speech and hearing		BA Degree or Master's Candidate		Professional Only		Don't know	
	N	%	N	%	N	%	N	%	N	%
1. Counseling patients	34	3.8	96	10.8	664	74.4	66	7.4	33	3.6
2. Counseling parents or family	38	4.3	87	9.7	663	74.2	73	8.2	33	3.6
3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	28	3.1	92	10.3	663	74.2	75	8.4	35	4.0
4. Counseling employers of the handicapped	38	4.3	96	10.8	569	63.7	99	11.1	91	10.1

SUMMARY AND CONCLUSIONS

The purpose of this study was to investigate some of the existing patterns of manpower utilization by professional service programs in speech pathology and audiology. An attempt was made to determine the relative weaknesses and strengths of these programs by asking questions such as: How large is the population currently receiving services? How large is the population which needs services? What portion of those being served need more services? How many professionally trained persons are actively offering speech pathology and audiology services? How many persons who are not trained to a professional level are offering these services? How many persons are now being trained to offer these services in the future?

As a way of answering these questions, the investigation proceeded in four directions: (1) site visits to 20 selected service programs throughout the country were conducted during the initial stage of this investigation; (2) questionnaire surveys were developed for all identifiable speech and hearing service programs and for all school systems employing two or more speech and hearing clinicians; (3) a random survey of a 10% sample of the membership of the American Speech and Hearing Association was conducted to determine certain attitudes regarding academic preparation and work experiences; and (4) an attempt was made to quantify the number of students in training in this field.

In March of 1969 a three-day Conference on Manpower Needs and Manpower Utilization in Speech Pathology and Audiology was held in Corpus Christi, Texas, as a culmination of this 18-month project. This conference brought together leaders from the field to examine some of the data from this study and to recommend methods for alleviating personnel shortages.

Proceedings of the conference can be seen in Part II of this final report. Special attention is called to the recommendations which came out of five subcommittees discussing specific topics relative to the conference focus. These can be found on pages 93-105, Part II.

Present Manpower and Manpower in Training. On the basis of this investigation, about 1100 clinical facilities were identified as providing speech, hearing, and/or language services. The data presented in the tables of this report reflect the responses from 741 of these facilities where more than 3600 individuals are employed for the purpose of providing speech, hearing, or language services. This total yields an average of five clinicians per clinical facility. Projecting this average to the entire population of 910 clinical facilities suggests that more than 4500 persons are employed primarily for the purpose of providing clinical services.

At least 12,500 individuals are employed in the public schools of the United States for the provision of speech pathology and audiology services. Combining these two estimates--4500 persons employed in clinical facilities and 12,500 persons working in the schools--results in a total of approximately 17,000 persons whose primary employment activity is providing speech, hearing, or language services to the communicatively handicapped individuals of this country.

Of the total number employed in clinical facilities it was determined that at least 80% either possess certification from the American Speech and Hearing Association (ASHA) or have completed the academic requirements prerequisite to such certification. Of the 12,500 employed in the schools, 4500 are certified Members of the Association and an estimated 2000 more have completed the academic requirements for certification.

The number of students in training in this field has increased steadily during the past decade. This increase has, no doubt, been largely attributable to increased federal support for all of higher education. The greatest increase in students has been at the master's degree level, no doubt a reflection of the profession's attitude toward minimal academic preparation for independent practice in this field. In 1957, 359 master's degrees were awarded. Eleven years later, in 1968, almost 2000 master's degrees were conferred. Bachelor's and doctoral degrees have trebled during the same 11-year period.

The Clinician--His Role, Responsibilities, and Attitudes. Speech clinicians are employed in a wide variety of settings. Elementary and secondary schools represent the largest single employment setting for members of the profession. University and college training programs constitute the second largest employment setting. The third most frequent place of employment is the nonuniversity hospital or health facility.

As would be expected, clinical service is the primary job task of the majority of the Members of the profession. Approximately 70% of the Members of ASHA indicated that clinical service was their primary responsibility. The three next most frequent employment tasks include teaching college students, supervision of clinical service, and administration. About one quarter of the ASHA Members are engaged in these three tasks.

Regarding years of professional experience, the random sample of 10% of the ASHA membership found that 60% of the respondents had 3-10 years of employment in the profession. This finding, coupled with the fact that the median age for Members of the Association is between 26 and 30 years, suggests that the attrition of Members from the field is not as severe as might be expected of a profession which has a female-to-male ratio of approximately 3:1. Also, about three quarters of the respondents indicated they had had continuous professional experience since graduation from college, and about six out of 10 respondents stated that they would be continuing indefinitely in the profession. Those who reported they would not be continuing indefinitely in the profession responded, most frequently, that family reasons would be the primary cause for interruption in their professional careers.

Direct patient care constitutes the major time component of the clinicians' work week. Speech pathologists spend, on the average, more time in direct patient care than audiologists. Audiologists, on the other hand, devote more time to general administration, teaching and training, research, supervision, and writing records and reports than do speech pathologists. There is a wide distribution in the numbers of patients seen each week by the clinicians who were surveyed in the random sample questionnaire. About 23% of those persons responding said that they see between 1 and 10 individuals per week for clinical services; about 16% indicated seeing more than 90 individual patients per week. The distribution between these two extremes was fairly uniform.

A majority of the persons questioned felt that their work setting provided good opportunity for advancement, although some indicated that there were specific obligations they would need to fulfill in order to effect that advancement. About a third of the respondents reported that their positions did not allow adequate time for them to keep up with the trends of the profession, nor sufficient time for planning and preparation of their work activities.

<ins>The Clinic--Its Caseload and Clientele</ins>. For the 741 clinics responding

to the questionnaire, the distribution of clients by age groups showed some interesting results (Table 22, page 52). In both the nonuniversity and university hospitals (or health facilities) 35% of the caseload is composed of adults under the age of 65, and 15% of the caseload is composed of adults over age 65. This is in comparison with community speech and hearing centers, where a median of 15% of the caseload was adults under age 65 and 10% adults over age 65. University and college clinics reported 20% and 5%, respectively, for these two adult categories. These median percentages are higher than might have been anticipated and tend to contradict the stereotype of the speech clinician always working with children.

Community speech and hearing centers reported the largest number of children in their caseloads, with a median of 32% being in the preschool age range and 36% in the elementary and secondary grade age category. Nonuniversity and university hospitals both reported one quarter of their clientele in the preschool age group and about 30% in the elementary and secondary age group.

A wide range of responses was received to a question concerning the number of different individual clients seen during 1967 at the 741 clinical facilities surveyed (Tables 23-26). For example, 12% of the community speech and hearing centers reported that they saw 1-50 individuals for speech, hearing, and language screening during that year, while 7% of these same centers reported serving more than 5000 individuals for speech, hearing, and language screening services during this same period. This broad range of responses was seen in all of the data, regardless of the type of facility reporting or the type of services provided.

Only one out of four university and college clinics reported seeing more than 50 individual clients for hearing habilitation and rehabilitation during 1967. The inference that might be gathered from this finding is that the education and training programs in this field are not exposing their students to clinical practicum for the aurally handicapped. It is likely that the average graduate from the training programs in this field does not have a grasp of the clinical techniques unique to this segment of the communicatively handicapped population.

Manpower Needs in Speech Pathology and Audiology. In ascertaining the manpower needs in speech pathology and audiology this study was limited in that only those programs known to be in existence at the time of the study were surveyed. Consequently, those geographic areas where no services were available were not included in any of the estimates presented here. Also, a note of caution is necessary in light of the general downward trend in the national economy which has occurred since this study took place; it is possible that the economic slowdown has changed the manpower outlook for this profession.

About three-fourths of all speech and hearing clinical facilities reported an immediate need for additional full-time speech clinicians. In all, 1191 of the 1629 facilities (clinical facilities and school programs combined) indicated needing an average of more than three clinicians each to meet the existing demand for services. The five-year projection by the directors of these clinical facilities was that almost 4000 additional speech clinicians, beyond those presently employed and needed immediately, would be needed to fulfill the demand for services by 1973. Additionally, the data revealed that there was a need for approximately 1200 certified audiologists immediately, and that 1300 more would be needed in 1973.

The greatest single reason for needing additional personnel was "to meet the need for increased services." Filling existing vacancies was the second most prominent response, and the need "to provide new services" was listed as the third most important reason.

The directors of the clinical facilities indicated that a lack of financial support for additional personnel and a lack of financial support for expansion of physical facilities were the most significant barriers to enlarging their programs. Almost 20% of the respondents indicated that lack of qualified personnel was the major barrier to the expansion of their programs.

Educational Levels Needed to Perform Specific Tasks. ASHA has examined the utilization of supportive personnel in speech pathology and audiology as a way of alleviating the manpower shortage by: (1) establishment of a Committee on Supportive Personnel; and (2) through resolutions which have been passed by the legislative bodies of the Association. In this study an attempt was made to assess the attitudes of professionals regarding the place of less highly trained personnel in the clinical service programs. The results revealed that the directors of service programs have, for the most part, an unrealistic concept of the potential place for supportive personnel in the speech and hearing clinic.

Generally, the directors of the service programs responding to the questionnaire indicated that at least some college education is necessary for the performance of all tasks which bring a patient into contact with a "clinician." This attitude was expressed whether the specific task was testing for aphasia and related problems, or pure-tone air-conduction audiometric testing. The level of supportive personnel designated in this study by the phrase "no formal college training in speech pathology, audiology, or related fields" seldom was selected by more than 10% of the respondents, regardless of the specific task upon which the judgment was being made. (The reader might be led to wonder whether more than 10% of the respondents would have checked "no formal college training" if one of the specific tasks had been chauffeuring patients to and from the clinic.)

The results of this segment of the study suggest that a concerted effort may need to be launched to educate members of the profession regarding the potential use of supportive personnel for this field. Examples from several other fields could be used to demonstrate the utilization of persons with little or no formal "education."

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PART II

Report of the Conference on
MANPOWER NEEDS AND MANPOWER UTILIZATION
in
SPEECH PATHOLOGY AND AUDIOLOGY

Corpus Christi, Texas

March 9-11, 1969

Part II

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INTRODUCTORY REMARKS

James Jerger, Chairman, Manpower Committee
Baylor College of Medicine
Houston, Texas

Welcome to ASHA's Conference on Manpower Needs and Manpower Utilization in Speech Pathology and Audiology.

This Conference represents the culmination of more than two years of research planned and executed in cooperation with many members of the Association. Its success is, in a real sense, however, largely due to the efforts of two very able young men; Dr. William E. Castle, who conceived and designed the project during his tenure as an Associate Secretary in the National Office; and Dr. James E. Fricke, ASHA's current Associate Secretary for Research, who carried out the project through its successful conclusion at this Conference.

We are indebted, also to the members of the Manpower Committee - Dr. George D. Davis, Dr. Jack Matthews, Dr. Thomas J. O'Toole, Dr. David M. Resnick and to the committee's very able right hand, Mrs. Frances S. Lichtenberg.

Before we brought you together to talk about Manpower Needs and Manpower Utilization we carried out some much needed research on the subject. First we gathered data, by indepth interview techniques, at 20 selected clinical facilities. Then we sent questionnaires to every known facility in the nation offering speech and hearing services to the public.

The result is an impressive body of data, a profile of how we, as a field, are actually using our available manpower, and how we see our future needs.

You have before you a report summarizing these data. The purpose of this Conference is to catalyze your interaction with this report.

Each of you has been selected to participate in this Conference on the basis of expertise in a particular phase of the critical manpower problem facing us.

We want to know how you interpret these data, and we want you to help us develop, on the basis of your interaction with the data, recommendations for action - action to meet the long-range and growing demands for manpower in our profession. The problem is urgent, the need is great.

At this time it is my great pleasure to introduce to you the distinguished President of the American Speech and Hearing Association, Dr. John J. O'Neill.

WELCOMES AND INTRODUCTIONS

John J. O'Neill
President, ASHA

In addressing you this evening I will try to avoid polysyllabic ornamentation - with the hope that such an approach on my part will encourage the participants in this Conference to follow a similar pattern during the next few days. For informational purposes I would like to quote a statement that describes the process of polysyllabic ornamentation -

> "the intellectual development of intelligent individuals, elevated by their educational attainments, encourages polysyllabic ornamentation of their scriptual assertations."

I have provided you with this definition under the assumption it may be the one weighty statement I make during this Conference.

However, I can express my pleasure at being able to extend a welcome to you from the American Speech and Hearing Association. Also, on behalf of the Association I can express appreciation for the support being provided by the Social Rehabilitation Service, which has made this Conference possible. I would also like to extend a special welcome to the distinguished speaker who will be addressing you later this evening.

Finally, I wish to express my personal appreciation as well as the thanks of the Association to Dr. James Jerger and his committee and Dr. James E. Fricke for their efforts in organizing this Conference.

This meeting reflects the national concern for the manpower needs of speech pathology and audiology and the utilization of that manpower. The Conference has been organized in such a way that during the next few days you will be discussing - in a logical progression - the various facets of the needs for utilization of manpower in speech pathology and audiology.

I would hope that you will not become embroiled in countless philosophical arguments as to whether we should be utilizing certain types of personnel. This is not the time for the presentations of cliches and the defending of fixed positions. In 1967 - at a conference dealing with the utilization of personnel in rehabilitation facilities, one of the speakers made a statement worth repeating here. That speaker said, "the question is no longer 'whether or not' - rather it is, 'how,' 'how soon,' 'how prepared,' and 'by whom.'"

In closing I would like to say that it is about time we hold this type of Conference. We have been doing a great deal of hypothesizing, philosophizing and soul searching in this area - for the past few years. We are not at the point where we need to face the issues that are inherent in the utilization of manpower in speech pathology and audiology. We need to set up some guide lines and offer some recommendations. In blunt terms we need to have this Conference be an excellent demonstration project of the effective utilization of manpower.

EXPANDING A PROFESSION:
PROBLEMS IN EDUCATION AND TRAINING

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General agreement prevails on the need for more and better trained speech pathologists and audiologists. Disagreement prevails as to the nature and extent of the education and training for such persons at one or more levels of competency.

In representing manpower interests within the health sector of the Department of Health, Education and Welfare, I hope to be of service to you by way of describing some of the thinking rather than funding that goes on in some of our offices. Instead of explaining potentially useful legislation or engaging in the manpower numbers game, I wish to bring to your attention briefly some of the elements and characteristics of the dynamic process of expanding a professional specialty as I see them.

I consider this approach strategic for a number of reasons. First, some of the taxpayers' money -- your money -- will be spent. Second, such funds are not inexhaustible, the competition for grants and contracts is understandably keen, and the search is perennial to get the most for the public sums invested. This is another way of saying that priorities must be established. Third, and as an outgrowth of such priority setting, our particular vantage point as a national focus for assistance exposes us to the thinking and objectives expressed in many applications. The objectives are invariably worthy. The thinking ranges from bad to indifferent to outstanding. Therefore, my observations represent the distillation of: the ideas and methodologies to which I have been exposed in these applications; extended consultations with educators and health specialists; and my own very modest talent and expertise to which many hundreds of professional persons have contributed.

Your primary concern at this Conference relates to the need for more manpower to provide more and better services to the many millions of people who require corrective attention in your field. Your major problems relate to recruitment, education and training, the development of supportive personnel, and research.

Being neither a speech pathologist nor an audiologist, I am in no position to comment on your research needs. Therefore, I will address myself to the other three areas of emphasis. My concentration on the education and training of supportive personnel is deliberate because of their effects on recruitment. Furthermore, the utilization of highest-level-trained professionals is greatly influenced by the creation of an assistant category of some kind.

The creation and nurture of a junior associate cannot be accomplished and brought to fruition easily or quickly. I admire the caution and meticulousness with which the American Speech and Hearing Association has approached the task. I recognize the travail involved, and applaud the logical and workmanlike steps being taken to examine all facets. In particular, I wish to record publicly my admiration for a classic and very model of a Statement prepared by Professor Irwin a year or two ago relative to the questions and problems involved in educating and training an "assistant."

I am delighted to note these actions because, although the need and reasons for change in our society are self-evident, organizational leadership and progress must inevitably reckon with first the domination and later the rear-guard actions of those who find it difficult to change, and who thereby represent entrenched interests and the status quo, and who fight the invasion of their hard-won bailiwick and stake in the current scheme of things.

The requirements of my work involve me intimately in the thinking and planning of many specialty groups operating in the health sector of our society, as well as of professional educators. Their shortcomings and limitations are remarkably the same. Therefore, my comments reflect the national scene as I see it. If the shoes fit, feel free to wear them. If I should raise some flags of warning, feel free to heed them. If I should come uncomfortably close to some immediately sensitive problems of yours, I hope you will reflect further on them.

Some initial questions must be asked when considering the creation of a new competency level within an established specialty. Can we distinguish between a frankly local manpower crisis and job idiosyncracy or do we have in mind the creation of a new job and person having the potential for replication elsewhere and for development into a nationally visible member of the health team? Another key question must be asked. Is there any existing specialty's job description that could be altered in some way to accommodate the proposed new functions, duties, responsibilities, and skills? The usual answer is "yes," but most often such alteration and accommodation represent addition and subtraction rather than re-assessment. When the work becomes too burdensome, we arbitrarily establish a "new" specialty or competency level, most often a subspecialty.

If it is a new specialty, we must accept certain consequences of letting the genie out of the bottle. We must be prepared to contribute to the occupational jungle certain unfortunate characteristics which we know only too well. First, the new breed proliferates and forms a national organization. Second, this specialty develops its own technical jargon to distinguish the "ins" from the "outs," thereby adding its own idiosyncratic terminology to the communications pipelines already clogged and showing signs of atherosclerosis.

Third, the specialty develops its own wage scale, of which we may have too many to begin with. Fourth, it may very well find itself in jurisdictional disputes, thereby driving directors and administrators to distraction. Fifth, it may develop specialty educational and performance requirements as much for visibility and status as for legitimate standards of competence. Sixth, it establishes a quarterly journal of initial dubious merit.

It doesn't have to turn out this way, but, unfortunately, these are among the more unsavory attributes of organized professional life, and we are beholden to "tell it like it is." Also, these are among the results of not addressing the question: where does legitimate specialization end and unwarranted fragmentation begin?

If we have in mind either a new specialty or another competency level within an existing health occupation, we usually write a new job description first. Now, we all know how job descriptions are prepared.

At one time a hospital administrator introduces a genuinely needed and innovative practice. By emulative replication it ripples across the land by adoption rather than adaptation and we wonder why or how it fizzled or became distorted. At another time, a member of the staff walks past the Medical Director's open door and is literally thrown, perhaps in desperation, some new function or duty. Because of staff short-handedness, it works its way into the old job description after a few years. By training and competency standards, it doesn't belong in that old job description but by sweat and trial and error it is shoe-horned in. In still another format, a national association appoints a committee of elder statesmen who meet periodically over a two-year period and at a forthcoming convention a voice vote or hand vote at the business meeting establishes the new job description.

I submit that there are less haphazard and fortuitous and more professionally acceptable and rigorous ways of modifying a profession's or occupation's activities. When developing a new allied health field or a new competency level, it is essential that the entire occupation's or specialty's job description be scrutinized. This is inescapable. The addition of new people and more people, educated and trained in different competency levels, to provide new or expanded care and services -- all such developments force the re-examination of the entire specialty's work.

Whether the contemplated job represents a newly developed specialty or a new competency level, a first set of questions must be answered.

Exactly what is the problem? Is it a lack of higher-trained manpower? Are there new functions to be carried out? Is more specialization required because of an increase in subject matter? Is it a matter of less specialization, because we cannot afford it -- a means of avoiding higher pay and the objective is the creation of a cheaper version of the specialist? Is it a matter of logistics?

Once the questions have been addressed, the second step is to engage in a detailed analysis of the care and services rendered to the patient by everyone in the specialty. If we agree that we cannot produce enough speech pathologists and audiologists trained at the highest level to handle the population's aural and related problems, then additional categories of associates or assistants are needed. What will these additional people do? No one can answer this question better than you people. In the reassignment, reshuffle, and redistribution of work to be done and services to be rendered, yours are the prime tasks of identifying how much of which functions, duties, responsibilities, and skills can be shifted to others, and what their training should be. And the preparation of job descriptions, no matter how detailed, is the third step, not the second step.

The second step requires thorough-going job or task analyses. Job (or occupational) analysis has long had an honored and strategic place in the administrative, managerial, and supervisory scheme of things in the manufacturing and industrial sectors of our economy. It is all but unheard of in the health field, and its comprehensive introduction in our midst is long overdue.

I wish to make a few technical points clear. A job description is an identification and grouping of performance requirements of the job holder. These represent the what of the job. Job analysis or task analysis represents the how and why of the individual performance requirements.

There are two different-but-related types of task analyses. One might be designated "job factoring." The other may be called "developmental."* The first type looks at jobs and services from the point of view of those rendering service. The second type focuses on the needs of those being rendered the services. In the first type, the analysis is made of what care and services are currently being provided the patient (including some which may not be necessary, are out-moded and survive through tradition, or which may represent aspects of professional ritual or mystique). The "developmental" form of task analysis focuses on the identification, description, and analysis of functions, duties, responsibilities, and skills which exist or can be anticipated relative to patients needs. For example, many categories of aides have been created as results of job factoring, whereas physical and occupational therapy came into being as a result of the developmental approach.

The distinctions between these two approaches to task analysis are fine but clear. Perhaps the major differences are that the job factoring avenue is more quickly and easily travelled, and it establishes a greater rationalization of the total work load from the point of view of the professional and health team captain;

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*For these observations and terminology I am indebted to Dr. Sidney Fine, Wm. Upjohn Institute for Employment Research, and to colleagues in the U.S. Department of Labor.

whereas, the developmental avenue is more sensitive to changing patient needs and requirements and is more clearly geared to career development than to job development. Of course, it is possible to modify either of these techniques by incorporating elements of the other. Furthermore, the later steps of both procedures are identical.

The job factoring route is followed because it seems to provide quicker and more direct solutions to manpower problems. Also, it minimizes threats to what the physician, or team captain, or highest-level trained specialist does and how he practices. In addition, it has the advantage of introducing the employer, study group, or institution in easy steps to the intricacies of examining and reassessing the details of performance.

Basic and strategic reasons exist for making task analysis the first step in developing a curriculum to produce either a new allied health specialty or a new competency level. First, task analysis will help to identify what must be learned under formal, organized, instructional arrangements and what may be planned to be acquired on the job. These decisions and distinctions are important because they influence training time, affect the use of instructional staff, involve a variety of cost considerations, and relate to the "raw material" available for training. Second, task analysis makes it easier to identify and assign competency levels for performance. Without task analysis, conventional procedures will be followed, as I have already described.

Third, task analysis has the potential of effectively determining how many functions and responsibilities can reasonably be assigned to a single individual at a particular level of competence. The possible need for more than one competency level may lead to the creation of a realistic career ladder or series of job advancement opportunities. Fourth, task analysis can produce data helpful in documenting and justifying more equitable pay schedules. Fifth, task analysis will uncover data necessary to more easily determine the educational equivalency credit to be assigned for different amounts and kinds of on-the-job experiences. Sixth, task analysis will clarify teaching-learning objectives on which curriculum construction must be based. Seventh, task analysis should result in the re-assessment of duties and responsibilities as performed by the highest trained specialists in speech pathology and audiology.

This last point must be reiterated because of its implications for the health team concept. Historically, most allied health occupations have developed independent of the physician. If it seems impossible so far to relate the members of the team more closely while in their training stage, then perhaps task analysis with focus on patient needs is one attempt to bring the captain and his team members into a closer, more meaningful, and effective working relationship on the job.

One constructive outgrowth of a closer working relationship should be more sharing of responsibilities as opposed to mere delegation of duties to assistants. As an example of the interrelatedness of various actions and consequences of developing health manpower, it is quite clear that, with more sharing of responsibilities, various licensing laws and other regulatory mechanisms will have to be re-examined and made more flexible, and the "captains" will have to participate more actively in planning and conducting the training of their team members.

We must proceed now to ask more questions: (1) Is there anyone anywhere else who has developed an identical or reasonable facsimile of what we have in mind? (2) If so, what have been the results of the effort? (3) What advantages inhere to both patient needs and related specialists' work? (4) Is this new kind of work available elsewhere? (5) What do other potential employers think the functions, duties, responsibilities, and skills should be for this new person?

At this point, the job description is added to the initial objectives for formal training, to considerations of the raw material available for training, and to the potential for immediate employment upon completion of training. Attention can now be given to curriculum planning and development. The following are representative of the questions which must be answered. (6) What instructional materials are already in existence which can be used "as is," how much of what exists must be modified and how, and what must be newly written? (7) Into what sequence with what prerequisites should courses be developed? (8) How long should the training program take? (9) What screening procedures should be used and what background must candidates have for entrance to the training program? (10) What is the best "mix" of general education and specialized training for this new specialty? (11) To what level should this person be trained in educational institutions, or clinics, or rehabilitation centers? (12) What should the nature and extent of clinical, supervised, on-the-job exposure be like? (13) Where are the teachers to be found to offer the curriculum and what special qualifications should they possess, both as teachers and as technically competent people? (14) How can the student-teacher ratio be modified to produce more trained people per teacher without jeopardizing quality of instruction? (15) What special facilities are required, such as floor space and equipment? (16) What will it cost to train such people, realizing that the initial costs for the first-trained generations should come down once the program becomes established? (17) What about certification, how, when, and by whom? (18) In what ways do (or could) how much of curricular content articulate with programs at levels below and above the particular educational level contemplated for the new curriculum? I'm certain that you can think of still more questions to be asked.

Although this is neither the time nor place to consider the detailed content of curriculums, I wish to recognize the increasing potential of a particular trend. With the passage of time, with the proliferating sophistication involved in the delivery of health care and services, and with such delivery related to the increasing complexity of organization and with ever larger numbers of people, it is quite possible that those who are trained at the baccalaureate (and higher) level in the allied health occupations can look forward to more and more of their job descriptions being devoted to administrative, managerial, and supervisory duties and responsibilities, with the more specifically technical knowledge-skill-oriented services assigned to junior college trained personnel. If this trend gathers credibility and validity, the relevance of general education and the social-behavioral sciences in their curriculum becomes more pronounced.

From another vantage point in looking at the curriculum and training program, the focus on the trainee raises some basic questions. First, do they have geographic mobility? Are their newly-acquired skills and talents useful in Maine, Florida, California, and elsewhere in our Nation? Second, do they have occupational mobility? Where can they go, either vertically or horizontally, if, for example, they are truly competent and are appropriately motivated to go on to more sophisticated and responsible work? On the other hand, how can we train them so that, if they find themselves round pegs in square holes, they can move to another health field rather than be tempted to leave the health field altogether? We must avoid creating dead-end jobs. Third, knowing that the tempo of technological change is accelerating, and that the half-life of new knowledge is increasingly short, to what extent can we introduce more principles and fewer facts, and more problem-solving and less memorization, in our educational and training programs, in order to provide the flexibility necessary for successful adjustment to new job demands? Fourth, will the trained person have a competitive salary, depending upon the level of training involved.

The questions raised thus far have related to the need for the new specialty or competency level, the need for job analysis, curriculum planning, and obligations to the "new" trained person. Before going on to still other facets involved in the development of health occupations, I wish to recapitulate and reiterate the major points presented thus far.

First, it is necessary to distinguish between legitimate specialization and unwarranted fragmentation.

Second, the functions, duties, responsibilities, and skills necessary for optimum patient care and service must be identified and described via task analyses as a basis for constructing valid job descriptions.

Third, the orderly development of new competency levels within your professional field requires that your specialty leadership's own forms of job descriptions be examined and re-assessed.

Fourth, the resultant team will become more effective and efficient to the extent that the team captain shares responsibilities rather than delegates duties.

Fifth, the major elements of curriculum construction include a long series of questions and problems which must be addressed jointly by you specialists and professional educators.

Sixth, obligations to the trainees include geographic mobility, occupational mobility, competitive wage, and distinctly visible membership on the health team.

From all that has been presented and outlined thus far, it is clear that there must be a closer working relationship between Substance and Technique and between Professional Practice and Professional Education, or between Academia and the world of work.

It is in this last-named area that we strike paydirt, where the problems are the knottiest, and where the impact is the greatest. Professional educators and health professionals have their own respective collection of "hangups" or problems to be worked through in order to make effective rapport and collaborative efforts possible. There are also some problems to be solved only through joint efforts. I wish to identify the latter because of their strategic impact on the growth and development of allied health occupations.

First, the long-standing tradition of educational institutions, professional societies, and employers to equate potential for quality performance with educational achievement is open to serious question when posed as the sole route to a livelihood. Educators and health oriented professional practitioners have yet to get together to develop even crude criteria or guidelines by which educational equivalency credits or values can be offered for specified amounts and kinds of on-the-job experiences. This constitutes a major roadblock to manpower development, to efficient utilization, and to occupational mobility.

As a result, the certified laboratory assistant, for example, with seven years of competent service on the job, finds herself taking a full year of elementary bacteriology when she applies to a college or university for enrollment in a baccalaureate program, whereas some kind of examination could make her eligible for an advanced course and she could receive credit for the elementary offering. Surely, there must be ways in addition to formal education and the acquisition of a "piece of paper" to prove the value and competence of a person on the job!

Second, the increasing trend away from totally hospital-based, or clinic-centered apprentice-type training to a combination of education and training with anchor in educational institutions represents recognition of the need to eliminate the costs of as much of such activity as possible from patients bills. It also represents recognition of the need for a more sophisticated level and amount of general knowledge possessed by all health personnel, knowledge which cannot be acquired solely from on-the-job skill-focused exposures. Since trainee time is valuable and the need for service is so great, compromise is in order. It simply will not do to add a few general education courses to an intact health service centered program and expect the award of an appropriate "piece of paper" to prove the value and competence of a person on the job!

Third, job advancement opportunities within and between health occupations are totally inadequate. It cannot be denied that many health occupations do have career ladders. But responsible leaders in these same occupations admit freely and ruefully that there is still little or no occupational mobility and that the feet of those in each of the competency levels remain in concrete. It is much too convenient to place the blame on the rigidity of regulatory mechanisms. Justification for greater flexibility must be based, in turn, on evidence of closer articulation among educational and training levels, more equitable distribution of total workload, clearer demarcation in job descriptions between competency levels, and related elements. The economically disadvantaged have had two- and three-generation-long experiences with dead-end jobs and won't touch them. Middle-class workers are too restless to "stay put," especially if they possess modest talent and are appropriately motivated.

Fourth, the logic, economy, and related values of the core course and core curriculum continue more as pious declarations of intent than a conviction and fact of operational curricular life. In times of limited physical plant and scarce teaching talent, it is unfortunate to come upon as many as four or five variations of the anatomy course, for example, on the same campus: in the medical school, in the Graduate School of Arts and Sciences, in the bio-medical engineering department, in radiologic technology, in physical therapy, etc.

The concept of "core" is more easily appreciated than demonstrated. For example, a great number of health occupations specialists share certain categories of background, such as medical terminology, elements of anatomy, basic physiology, the psychology of patient care, medical ethics, and hospital organization and operation. In another variation, radiobiology is considered as "core" for all those training for the different-but-related cluster of specialties involved with radiation, whether it be for diagnosis, therapy, research, or safety. In still another variation, some suggest that real "core" is represented by the merger and integration of, say, anatomy and physiology and medical terminology into a single course.

A number of features of the core concept are most attractive. (a) There is considerable saving in both teacher time and cost. Trainees representing a variety of health occupations should be sitting in the same classroom at the same time to receive instruction in anatomy and/or physiology, for example, from the same instructor. (b) The introduction of commonly shared basic units of instruction aids the move toward integrating the organization, administration, and conduct of related curricula. The increasing establishment of Departments, Divisions, and Schools of Allied Health Professions suggests greater efficiency, effectiveness, and economy in the utilization of faculty, instructional techniques, equipment, and physical plant. (c) Common background may make it easier for trainees who find themselves "round pegs in square holes" to shift at some time to a different-but-related field rather than face the usual alternative of dropping out entirely from the health occupations area for training and employment in other and unrelated fields. (d) Temporary on-the-job assignments in related specialty fields may be more competently carried out if the individual's education and training include shared knowledge and skills. (e) In related fashion, the "health team" is clarified and given greater operational effectiveness when members of the team bring commonly acquired background to health care and service activities.

Consideration of core elements is related to the specific and repeated reference in this presentation to coordination among specialty fields within the medical community as well as coordination between educators and medical leaders. Considering the rapid growth of new knowledge and technological developments, one could justify increasing specialization at the highest levels of training. However, I am not so certain that each such specialty must have a less sophisticated sub-specialty person trained in the identical image. In terms of providing economy of training, job satisfaction, and occupational and geographic mobility, is it possible to identify a number of functions, duties, responsibilities, and skills common to a number of medical specialties sufficient to add up to a single, basic job description which is generic for a series of specialty clusters?

Depending upon one's bias, the answer "Yes" comes forth sceptically or forthrightly, when considering the extent to which the ranks of nurses are regularly raided, upon which to build specialty associates -- the pediatric nurse, nurse anesthetists, public health nurse, psychiatric nurse, geriatric nurse, etc. What is there which is so common denominator about nurse training? Similarly, what is there of a common denominator nature in the work of the assistant to, for example, the obstetrician and pediatrician, or to the orthopedist, physiatrist, and physical therapist? The obvious search here is to reduce the number of separate categories of assistants, to provide appealing comprehensive training, and to provide some kind of interchangeability of employer and work emphasis for the assistant. As a result of such a wide exposure of the assistant to fields of specialization, he or she may develop a particular affinity, and can then acquire the necessary additional specialty training without having to start "from the ground up" in another or related field. For example, how do you relate to the otorhinolaryngologist, the physiatrist, the physical and occupational therapist, or others in the rehabilitation team?

Finally, I cannot refrain from identifying two major and highly visible "smokescreens" which, in my estimation, prevent closer and more effective working relationships among professional educators and health-oriented professional specialists in developing supportive categories. When approached by educators to reconsider and reassess current training requirements, the practitioners' resistance and defense are reflected in: "Well, after all, we don't want to dilute or jeopardize competency and quality performance on the job!" The educator's defense of his bailiwick revolves around the need for the "educated citizen," more theory, general education, specialized courses, didactic instruction, degree requirements, and other appurtenances of a certificate-oriented Educational Establishment. Obviously, both are partly right, which means, of course, that both are partly wrong. All of which indicates quite clearly that more exposure to one another's world, greater appreciation of and respect for each other's expertise, and much more compromise are imperative. These are not insurmountable goals or objectives. This partnership, though basic, must be expanded -- and the sooner the better -- to include greater participation by employers, regulatory mechanisms, and the Federal Government. The health and welfare of this country's single most important resource -- people -- are at stake. Let us get on with the job.

IMPLICATIONS OF FEDERAL PROGRAMS FOR OUR PROFESSION

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In preparing this paper, I have made my judgments basically on two criteria. First, I have contrasted our profession before 1955 with our profession after 1955; the year 1955 is arbitrary, but I believe that it antedates the heavy impact of federal funding.

Second, I have looked for differences in our profession that I could, with some reason, relate to federal support. Federal funding, to date, has been more significant in training and research than in service. Approximately 30% of the current support for training and research in speech pathology and audiology is federal. (This pattern may be changing.)

Within the limits just defined, I will discuss the implications of federal funding programs for our profession under four main issues: (1) federal control, (2) program expansion, (3) program quality, and (4) side effects.

Federal funding does result in a measure of federal control, because basic legislation defines areas of support, and decisions made by staffs and consultants within the legislative framework determine specific implementation. Thus, although a university or other agency may elect not to play the game, the rules have been set. This, I concede, is a form of control.

But, both in legislation and implementation, I submit that the sometimes incompatible demands of the communicatively handicapped and the demands for geographic, ethnic, and institutional balance have been well reconciled. Control has been exercised; but it has been primarily a control based on public law and public discussion rather than private whim.

I suggest, also, that the federal government has no monopoly on control. Universities bow to state and campus control; service institutions, to state, local, and institutional control. The evidence, so far, fails to suggest that in the field of speech pathology and audiology the level of federal conceptualization has been intrinsically inferior to or more dangerous than that enforced by others.

Moreover, if, as I believe, graduate education is a national resource, it seems proper that graduate education be responsive to national leadership.

Permanency of Federal Support. I cannot predict the permanency of federal support. This profession has been exposed to different kinds of federal support. One kind, represented by the early Vocational Rehabilitation Administration training support, began in July 1957 and represented an attempt to use federal money to initiate training programs with a built-in drop-off federal support over time.

Another kind of support, manifested by many National Institutes of Health research and research training programs, has sought to guarantee funds over a fixed period of time -- say five years -- with a possibility of renewal. In this philosophy, although institutional contribution is important, no long-range take-over by the institution is predicted or required.

A third variant is represented by the training support of the Bureau of Education for the Handicapped. Here, although funding is currently on an annual basis, the expectation is that funding will be continued indefinitely.

The cumulative effect of such funding techniques, in combination with statements made by national leaders in and out of Congress, suggests that federal funding for the communicatively handicapped is here to stay. The concept of permanent support is radically different from the concept of "feed monies." Although present emphasis on permanent support creates new opportunities in the field of speech and hearing, it also creates problems.

For example, long-term funding can create a power base within a state or university; from this base, relevant programs can be built and maintained, but sometimes at the expense of other programs. Moreover, the termination of support can result in loss of face within the institution or community.

Relatively permanent federal support gives the project director a measure of financial independence from his usual institutional support. Such independence can reduce the control of local and state administrations. To use training programs as an example, federal support may divide the allegiance of the project director between the federal agency that supports him and the university that houses him. This divisive effect can be noted in research support, too. The potential for divisiveness, caused by federal support, is dangerous and is one factor favoring block funding. (Block funding is federal money given en masse, as a "block," to an institution; the institution deciding who gets what within the institution.)

The implications of permanent federal support and the resulting dependency are many; they must be given thoughtful and creative attention.

Categorical Versus Block Funding. Should allocations by category be determined at the federal level or at state or institutional levels? Support, to date, in our field has emphasized categorical funding. (In categorical funding a part of an institution applies for and receives funds directly from a federal agency; for example, a university speech and hearing center applies for and receives funds from the Office of Education.) Some sentiment exists in the present administration and Congress to move from categorical funding to block funding.

I predict, from the funding history of education for the handicapped, that this trend toward block funding, if real, will reduce the relative financial support (i.e., percentage of funds) -- and perhaps the absolute financial support (i.e., dollars in funds) -- in the field of speech pathology and audiology.

The history of block funding in special education has been painfully clear. The field of speech pathology and audiology, noting this experience, should be alert to this possibility and should respond as appropriately as possible.

Decentralization. Another possible trend in federal control should be noted. Several federal agencies, particularly the Public Health Service, propose to emphasize regional- and state-support control as opposed to national. Our experience with this type of change has been extremely limited. Bluntly, our profession is equipped better today to compete as a pressure group on a national basis than on a state or regional basis. This is because we do not have individuals available at state or regional levels with the political sophistication of our people at the national level.

Indeed, noting the relatively few professionals in our field to be found in Washington, D.C., I fear that equivalent specialization cannot be achieved at state or regional levels. If such a trend should increase, we may lose our present representation of professionals within and around the federal government.

Decentralization of federal funding must force a serious alignment of our efforts or result, possibly, in a crippling loss of support and guidance for our profession.

When evaluating the effect of federal funding, we should note that federal dollars have attracted local dollars in training, research and service. A rule of thumb is that each federal dollar attracts at least one local dollar. In practice, of course, the range of matching support varies from essentially zero to multifold.

The implications of matching funding on the growth of our profession must not be ignored; local funds, like federal funds, are limited. Thus, the fact that our profession has had more federal support than others has contributed to our relative growth in two ways: (1) The federal dollar has made it possible to support additional faculty, additional students, additional facilities, and additional services -- this is the simple effect. (2) The complex effect is that local matching money has contributed not only to the actual growth of our field but to our relative growth as well. This is because the greater our share of local money, the less there is for other fields. Relative growth needs to be evaluated by (a) the direct federal dollar, (b) the direct matching dollar, (c) the subtractive effects on nonsupported programs.

Central administrations, at all levels, are aware of these factors. One task of local administration is to absorb this influence as fairly as possible for the balanced growth of university, state, and local programs. To some extent, therefore, the subtractive influence has been nullified by intensive and conscientious efforts of local administrators. But nevertheless, the argument that one local dollar can control many federal dollars has great purchase.

I conclude, of course, that federal support has contributed to the major expansion of our field. In addition to the direct and matching dollar support, making possible new faculty, new traineeships, new facilities, and new service concepts, federal support has also given us new visibility at national, state, and local levels. Perhaps the visibility effects of this funding have been as important as the "purchaseability" effects.

I assert without hesitation that we are a bigger and more versatile field because of federal funding. The argument that we are better may not be as conclusive.

The cumulative effect of federal support on quality in the field of speech pathology and audiology has been good. There are several areas in which this statement is particularly true.

Until recent years, our field has lacked personnel and facilities for research. Our needs are still acute, but the various federal research and research-training supports have probably been our largest accelerating force.

At more pedestrian levels, federal support has encouraged demonstration of research applicability and has helped us by means of state plans, conferences, short courses, interactions with related professions, and other activities, to update the fully trained and to upgrade the partially trained.

Although I now wish to discuss some problem areas in which my reactions are mixed, I wish to remind you that the overall effect on quality has been positive.

Training Program Explosion. The quality of training programs has been affected in two puzzling ways. One is the sheer numerical expansion of training programs; this growth has been phenomenal. Unfortunately, because federal support is motivated by a variety of almost inescapable concerns, program support frequently has been by numbers and geographic distribution rather than by depth or potential of programs. Consider this question: Given x greater than y, does x number of widely distributed, relatively small, and minimally staffed and equipped graduate training programs serve the nation better than y number of selectively located, relatively large, and maximally staffed and equipped programs? This question has yet to be answered rationally. Yet, under the pressures of federal funding, this question is being answered -- perhaps definitively -- as training panels thrust multicolored pins onto the map of the

United States.

Two, our training institutions have awarded funds to many individuals whose capacities for graduate work are more corporal than cerebral. Universities have feared that unused traineeships will result in award reduction. In addition, as long as minimal standards were maintained, universities could justify such selection on the grounds that additional training, clinical, and "leadership" [sic] personnel would be available. Validity can also be found, however, in the position that the combination of expanded numbers of training programs (which have stretched to the utmost the teaching potential available) and expanded recruiting policies (which have drawn from the bottom of the ability barrel) has not resulted in maximal emphasis on quality.

Standardization. Typically, in speech pathology and audiology, training support is established by panels. These panels usually inherit, or seek to generate or invoke, guidelines and/or standards around which they can base their decisions. Guidelines assure some uniformity in the decision-making process and provide some defense for judgments made; as a relatively experienced panelist, I have been keenly sensitive to both these needs.

But such guidelines also tend to impose rigid limits within which training money, in particular, will be awarded. In general, panels have shown considerable wisdom in their standardizations. I believe these standardizations have been healthy for the profession as a whole. Still, I realize that such standardizing has at least two dangers: (1) The panel -- for a variety of very good, indeed, imperative reasons-- may form its standards around those already imposed on the profession, either by the government, by leaders in the field, or by professional associations. Because of the level at which the decision-making process is conducted, these standards may not reflect immediacy. (2) The second and related danger is discouragement of innovation.

These consequences of federal funding, however, are not inescapable. The nation can, if it chooses, support creativity. Fortunately for the field, various funding agencies are recognizing the dangers of complete standardization and are deliberately setting aside portions of their funds for innovative techniques in training and service. The long-range effect of deliberately innovative funding is yet to be felt. One would hope, however, that such funding would do much to relieve any danger of overstandardization.

Reduced Work Experience of Doctoral Candidates. One marked trend in our field, as a result of federal support, is that present doctoral candidates go straight through to their degrees without having "served time" as graduate assistants in laboratories, clinics, or teaching situations. For ethical and legal considerations, many universities find it unwise to use federally supported trainees in service functions. As a result, the practical experience of the doctoral candidate has been reduced. Predoctoral employment, another source of experience, also has been minimized because the amount of support--particularly in programs with dependency allowances--permits many individuals to come straight through from the baccalaureate degree to the doctorate without actual employment.

The effects are not all bad, though. New Ph.D.'s are more numerous, are younger, and have a more sustained educational experience. On the other hand, they may lack practical experience, and perhaps, a sense of obligation to any employer. Combined grant support may heighten this latter effect. Indeed, some of the confrontations now occurring between the newer and older members of the profession may stem from this basic difference in backgrounds.

Traditionally, members of our profession have been essentially nonpolitical. But, as federal support became a reality, our political involvement at the national level has been gradually accepted. Various members of the profession -- not always effectively and perhaps not always wisely -- have sought to advise

Congress in its enactment of legislation and to counsel administrators in the execution of such legislation.

Our involvement has had a salutary effect upon the field as a whole. The need for interaction has forced us to examine many of our crucial weaknesses. For example, we are critically aware now that we do not have precise data about the "handicappingness" of articulatory, voice, or language deviations. We do not have hard input-output data about service procedures. Lacking the above, I find it not surprising that we also lack hard data about the relative merits of training procedures, the essential functions of professionals and paraprofessionals, and the many other problems associated with manpower utilization.

Two favorable effects result from this forced immersion of our leadership into state and national political and social streams: (1) We are beginning to accept a broad service concept for our profession, as opposed to our traditional preoccupation with academia. (2) Our critical need for hard data--for true evaluation--has become evident.

Yet I see major danger from this immersion. I fear our political baptism may have been premature; I fear our advice has not always been wise or well founded. So far, I trust, we have avoided catastrophic blunders. But the urgency and impact of federal support make such catastrophic blunders a possibility at any moment.

Federal funding has helped the profession to live more rapidly; it also has compelled us to live more dangerously.

Nationalization of Interests. It would be unfair to say that our sense of belonging to a national profession can be attributed entirely to federal support; yet, federal support has contributed to our sense of national involvement.

The university in America has a rich and powerful tradition for individuality and independence. This tradition manifests itself in the operation of the university as a unit, in the operation of programs within the university, and in the behavior of individual faculty members and students. This is an important tradition; few of us would wish to see it disappear.

Yet, education has undoubtedly paid certain prices for this independence. One price has been the development of programs by local interpretations of what is desirable and what is possible. Thus, for many years, training and research programs in speech pathology and audiology survived with a great deal of independence and variation and some degree of provincialism. Neither the programs nor the products of these programs were in any sense interchangeable.

As the strength of our national Association grew, the certification codes of the Association acquired more significance in both training and service. Thus, a trend toward uniformity was established.

But more important than any actual uniformity was the establishment of the uniformity-creating process. Primarily because of federal support, we have held serious and sustained deliberations by selected individuals from the entire country and from all disciplines on such topics as research needs in speech pathology and audiology, supervision, the internship year, graduate education in speech pathology and audiology, undergraduate education in speech pathology and audiology, the use of supportive personnel in community and hospital clinics, and the use of supportive personnel in schools. Because of such concentrations of talent and time, maximal use could be made of the limited data available to our field about the relative merits of various training and therapeutic procedures. In my judgment, federal funding, to a great extent, has made this national deliberative process possible.

Philosophically, I would perhaps regard this as the major contribution of federal support to the field. For, without the guidance possible from such interactions, our fantastic rate of growth would have been even more chaotic and less realistic than it has been.

Federal support in training and research, but particularly in training, yields one interesting by-product: The cumulative magnitude of training requests can be used by sources in government as measures of the need and potential of the field to train more individuals. Thus, training panels in our field can accumulate interesting sets of figures under the following headings:

Total Requests for Training Support (either in dollars or in numbers of faculty or in numbers of trainees by levels). Figures under this heading presumably give some general impression of total training needs and capacities.

Cumulative Requests for Support Approved but Not Funded. Figures under this heading presumably give an indication of need for additional support.

Requests Not Approved. Figures under this heading presumably indicate problems of quality in training programs, suggesting the need for additional improvement support: program development grants, consulting, etc.

Using training requests as measures of need and potential to train more individuals is, of course, dangerous. As a rough guide, the figures do have some validity, but oddly enough they are subject to two contradictory types of error.

On the one hand, as is widely recognized, the individual who submits the training request--anticipating that there will be a considerable cut--may overestimate what his program could use. On this principle, the first category, total requests, constitutes a vastly inflated estimate of the potential for training in this country. The second category, approved but not funded, also reflects this inflation.

On the other hand, after a supported program has been in existence for some years, and because limited funds have allowed it to expand, the grant writers--to escape local embarrassment in the event of receiving large cuts--prepare requests in which little or no expansion is requested. In such instances, the total requests do not reflect the full extent of the need.

In summary: Because of the purpose for which proposals are prepared, and because of the vagaries to which they are subject, such figures do not constitute valid evidence of training need and potential. Yet, they are so used and thus influence future funding, federal and nonfederal.

One of the most significant effects of federal funding has been the establishment in Washington of a relatively permanent cadre of disenfranchised professionals. In the federal government, these individuals function variously as professionals and as grants management individuals. In professional and lay associations, they function sometimes as professionals, sometimes as administrators, and sometimes as intermediaries between the profession and government agencies.

May I state carefully and emphatically--for I know, trust, and respect this group of individuals--that their total impact has been good for the profession, for the communicatively handicapped, and for the nation.

Yet elements in this cadre system must be emphasized. First, these persons have been trained to the accepted professional standard. Most hold a doctorate. Such preparation means that they regard themselves--and with good reason--as members of the field and, by extension, as competent to represent the field.

Second, they hold positions which can influence the administrative and legislative aspects of government. Indeed, this group has provided the polarizing filter through which Washington looks at the field and through which the field looks at Washington. Because of this filter function, the permanent, collective influence of this cadre has become markedly disproportionate to its size.

Third, the members of this cadre have lost their professional immediacy. (I define loss of professional immediacy as lack of recent, sustained, face-to-face involvement in the direct service activities of the profession.) This loss of immediacy is shared by many professors of speech pathology and audiology--including some who recognize and decry the existence of the problem.

This loss of professional immediacy has two effects. On the one hand, this very lack of involvement may permit broader, more generalized, and more pervasive judgments for the field as a whole. This is no idle observation. Much of the wisdom that has stemmed from Washington results from these characteristics. But, on the other hand, this lack of immediacy may permit this cadre to focus on unessential problems or to suggest wrong solutions for the real problems.

I do not propose to eliminate the group. The working profession sorely needs its impact. Nor do I propose regular rotation of members. Such rotation could preserve immediacy--assuming the candidates came from direct service positions--but would tend to minimize cumulative interaction in Washington. I propose, rather, to recognize broadly and frankly this loss of immediacy and, as far as possible, to introduce to the councils of this cadre, in an organized way, clinical representation from the "firing line." Perhaps I want to have my cake and eat it too; I want this cadre to be able to speak for, not as, the profession.

Review and advisory panelists, of course, are children of federal funding. Criteria for selection to a review panel tend to favor so-called leadership people. In general, the quality of these individuals, measured by degrees, employment history, research, and publications has been high. Like the Washington cadre to which they in part belong, the absentee-elite (with conspicuous exceptions) tend to be drawn from instructional, research, or administrative personnel rather than from face-to-face, direct-service clinicians. Like the Washington cadre, the decision procrss of this group tends to make for broadness and depth of viewpoint. It also tends to minimize the relevance of the clinical act.

It is appropriate to comment on the interactions of the absentee-elite and the Washington cadre. The two groups have much in common. Unfortunately, their strengths and weaknesses tend to match rather than to complement each other. Thus, the elite and the cadre, when interacting, reinforce each other, heightening the strengths and weaknesses of both groups.

I know of no substitute for the panel. I hope, however, that additional kinds of individuals will be added to insure some immediacy and to gain some relevancy.

SUMMARY

It is easy both to praise and to pick flaws in the structure of federal support. But as we criticize, we must differentiate between effects that are inherent in the process and those that are by-products of management.

In my judgment, the major problems are subject to rational examination and modification. Federal funding serves to increase the viability of our field. In our search for change we must preserve, not destroy; improve, not kill.

THE COLORADO STATE UNIVERSITY NATIONAL INCIDENCE STUDY: PROGRESS REPORT

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Speech and hearing services have been provided for children and adults for many years and the demand for increased services has accelerated recently. Yet in the speech and hearing profession we do not have a reliable estimate of the number of individuals in the United States with oral communication disorders who could benefit from the services offered. Therefore, it must be assumed that immediate and future manpower needs for speech and hearing services can be more realistically considered if a reliable estimate of the scope and magnitude of the problem is known.

In 1965 the U.S. Office of Education awarded a grant to Colorado State University to explore the feasibility of conducting a national survey of speech and hearing disorders in the public schools of the United States. Subsequently the Office of Education has continued to support the National Speech and Hearing Survey which is now in its fourth year.

The primary purpose of the survey is to obtain a reliable estimate of the prevalence of speech and hearing disorders in public school children in grades 1-12.

Because of time and space limitations only the major activities involved in development of the survey project will be outlined in this report. Initially a project advisory committee consisting of experts in speech pathology and audiology, sampling theory and statistics, psychology, linguistics and public school research was established to assist in formulating methodological guidelines. Also numerous sub-pilot and pilot studies were conducted to evaluate test equipment, determine time factors in data collection and to establish criteria for the testing environment.

Subsequently, in 1967-68, data were collected from a large sample of public school children. The purpose of this pilot study was to evaluate all aspects of the survey method. More specifically, the goal was to determine the feasibility of school contact methods, reliability of test equipment, logistics of continuous operation over a long period of time and the consistency of evaluator performance under such conditions.

Some of the results obtained from this pilot study will be discussed, realizing that generalizations must be made with caution.

Speech and hearing data for the pilot study were collected from a public school sample of 6,287 subjects evenly distributed among the twelve grades. The 6,287 subjects are equally distributed among 21 sampling points (school districts) located in U.S. Census District #8 which includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

A survey team consisting of three evaluators and a team coordinator collected the data using a mobile unit. The team coordinator traveled ahead of the three evaluators to make final arrangements for testing in the schools and remained there until the three evaluators arrived at the testing site.

Each subject was "screened" for both speech and hearing individually. Testing was in blocks of four; the total test time of each block was 20 minutes. Approximately 50 subjects could be tested during each school-day.

Speech Behavior

Two methods were used to evaluate speech behavior: 1) a 73 item picture card articulation test, and 2) judgments of connected speech patterns. Only the results of the connected speech judgments will be discussed here.

Judgments of connected speech responses were scaled for articulation, voice, and overall impression while stuttering was judged to be either present or absent. Thus, in each of the speech categories except stuttering, the connected speech pattern was judged to deviate to some degree from a predetermined standard. However, in an effort to present trends in terms of a significant deviation from that which is considered to be acceptable, only results which can be considered to be extreme will be discussed at this time.

Articulation. Table 1 summarizes the percentage of subjects who were judged to have exhibited an articulatory pattern which deviated extremely from the standard General American dialect. These figures include all subjects who do in fact have an "articulation disorder" by any definition since they represent the most extreme deviations on the judgmental scale. On the other hand, individual subjects included in this judgment will vary in magnitude and quality of deviation to the degree that some might not be considered as an "articulation disorder" in the final analysis. The tabled values indicate that as age increases articulatory proficiency improves.

Voice. Deviations of voice were judged to a criterion of "acceptable voice." Pitch was judged in relation to the subject's age and sex. For voice quality three dimensions were judged namely, resonance, breathiness, and hoarseness without regard to sex or age.

Table 2 summarizes the percentage of subjects whose voice was judged to deviate from the criterion of "acceptable voice." Of the 174 subjects considered to have a voice deviation 36% were breathy, 37% showed deviations of resonance, and 20% were hoarse when pitch was acceptable.

Stuttering. The evoked connected speech was judged for the presence or absence of stuttering behavior. Stuttering behavior was judged to be present when the following were observed.

1. Obvious prolongations and repetitions of speech utterances which disrupted the normal fluency of connected speech, and
2. Other behavioral responses, sometimes found to occur with stuttering.

The combined prevalence figure of 0.3% for males and females is somewhat lower than the frequently quoted range of 0.7 - 1.0% (Table 3).

Overall Speech Performance. The overall rating of speech performance was made by judging intelligibility. As in the articulatory judgment the overall impression was compared with the General American dialect standard. In making the judgment the evaluator considered the speech variables of articulation, voice, and fluency as combined factors as they might contribute to the overall impression. Since judgments of articulation, voice, and fluency are made early in the speech evaluation it was assumed that the overall rating would render a more global assessment of speech performance. Therefore, a subject who might have been judged mild on the articulatory scale and mild on the voice scale could be judged to be extremely deviant on the overall speech performance scale.

The results of the overall speech performance rating for those subjects whose speech pattern was judged to be extremely deviant from the standards are shown in Table 4. The low figure of 0.3% could be interpreted partially in terms of the ratings of the three basic speech variables although such intercomparisons have not yet been made.

Hearing Evaluation

Hearing thresholds (ISO, 1964) were obtained on all subjects for 500, 1000, 2000, 3000, and 4000 Hz. Measurements were taken in a sound-controlled test room, using modified audiometers. Twice-daily calibration checks were made biologically, acoustically, and electrically. The Hughson-Westlake ascending technique was employed for all measures, and masking was applied to the better ear in all instances in which the two ears differed by 40 dB or more. Finally, reliability of clinicians' judgments was made at each stop on the itinerary.

Table 5 shows that 91.8% of all subjects exhibited hearing sensitivity in both ears which fell within a range considered to be "best human hearing." Females showed a rather consistent superiority over males, with only second-grade males having a higher percentage. In terms of findings by grade, albeit age, some tendency was shown for better hearing in the older children. Reasons for this finding are difficult to give, except in terms of subject reliability. Except for two notable deviations, the males in grades 10 and 12, the percent of superior hearing for all grades falls at or near 90% or better.

Table 6 shows that reliability is high at all grade levels. As one might expect, reliability also increases with grade level with the exception of the 11th grade. However, this result has relatively little meaning in view of the small N's. Also male subjects appear more reliable than females.

The purpose of this report has been to report the progress of the National Speech and Hearing Survey. For many reasons only a very small segment of the pilot study results have been presented and unfortunately this information may be of little use in discussing manpower needs. In the meantime six survey teams are now gathering data on the national sample of approximately 40,000 public school children in various sections of the United States.

TABLE 1. Articulation Deviation. Number and percentage of subjects judged to have exhibited an articulation pattern which deviated extremely from the GA standard. Grades 1-12. Total sample = 6,287 subjects. Pilot 1967-68.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	14	5.2	5	1.8	1	0.4	4	1.5	0	0.0	2	0.7	1	0.4
Female	8	3.1	3	1.3	1	0.4	2	0.8	1	0.4	2	0.8	0	0.0
Total	22	4.2	8	1.5	2	0.4	6	1.2	1	0.2	4	0.7	1	0.2

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	1	0.4	1	0.4	1	0.4	1	0.4	1	0.4	32	1.0
Female	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0	18	0.6
Total	1	0.2	1	0.2	2	0.4	1	0.2	1	0.2	50	0.8

TABLE 2. Voice Deviation. Number and percentage of subjects judged to have exhibited a voice which deviated from the acceptable voice criterion. Grades 1-12. Total sample = 3,363 subjects. Pilot 1967-68, SP 11-21.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	9	6.4	15	10.3	10	7.5	13	9.0	1	0.7	13	10.0	8	5.8
Female	7	5.0	10	7.3	14	9.8	7	5.2	9	6.8	8	5.9	6	4.4
Total	16	5.7	25	8.9	24	8.7	20	7.2	10	3.6	21	7.9	14	5.1

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	7	4.9	3	2.1	1	0.6	4	2.8	1	0.7	85	5.0
Female	8	5.9	7	4.6	1	0.8	5	3.5	7	4.9	89	5.3
Total	15	5.5	10	3.4	2	0.7	9	3.1	8	2.9	174	5.2

TABLE 3 . Stuttering. Number and percentage of subjects judged to have exhibited stuttering behavior. Grades 1-12. Total sample = 6,287 subjects. Pilot 1967-1968.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	2	0.7	2	0.7	1	0.4	1	0.4	4	1.5	1	0.4	0	0.0
Female	1	0.4	1	0.4	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
Total	3	0.6	3	0.6	1	0.2	1	0.2	4	0.7	2	0.4	0	0.0

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	3	1.1	1	0.4	0	0.0	2	0.8	1	0.4	18	0.6
Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
Total	3	0.6	1	0.2	0	0.0	2	0.4	1	0.2	21	0.3

TABLE 4. Overall Speech. Number and percentage of subjects whose total speech pattern was judged to be extremely deviant from the standard. Grades 1-12. Total sample = 6,287 subjects. Pilot 1967-68.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	9	3.4	0	0.0	1	0.4	1	0.4	1	0.4	1	0.4	1	0.4
Female	1	0.4	1	0.4	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Total	10	1.9	1	0.2	2	0.4	1	0.2	1	0.2	1	0.2	1	0.2

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	0.4
Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	17	0.3

TABLE 5. Number and percentage of subjects exhibiting bilaterally superior hearing sensitivity (0-20 dB/ISO, 1964). Males and females, grades 1-12. Total sample = 6,157 subjects. Pilot 1967-68.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	231	89.9	244	91.4	222	90.6	239	92.3	246	91.1	241	90.3	237	89.8
Female	223	91.4	203	90.6	245	92.1	230	93.1	250	95.1	243	93.8	243	94.6
Total	454	90.6	447	91.0	467	91.4	469	92.7	496	93.1	484	92.0	480	92.1

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	251	90.6	235	92.2	228	83.2	230	89.5	206	84.8	2810	89.6
Female	230	95.8	250	95.1	237	96.0	239	95.6	247	94.3	2840	94.0
Total	481	93.0	485	93.6	465	89.3	469	92.5	453	89.7	5650	91.8

TABLE 6. Number and percentage of unreliable subjects. Males and females. Grades 1-12. Total sample = 6,157 subjects. Pilot 1967 - 68.

Grade	1		2		3		4		5		6		7	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Male	10	3.7	15	5.3	9	3.5	2	0.8	2	0.7	2	0.7	2	0.8
Female	20	7.6	12	5.1	7	2.6	12	4.6	4	1.5	6	2.3	2	0.8
Total	30	5.6	27	5.2	16	3.0	14	2.7	6	1.1	8	1.5	4	0.8

Grade	8		9		10		11		12		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	3	1.1	2	0.8	4	1.4	3	1.2	0	0.0	54	1.7
Female	4	1.6	1	0.4	3	1.2	8	3.1	0	0.0	79	2.5
Total	7	1.3	3	0.6	7	1.3	11	2.1	0	0.0	133	2.1

PROGRAMMED INSTRUCTION -- IMPLICATIONS FOR TRAINING AND SERVICE

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Within the past decade four major movements have provided models and procedures which appear to be relevant for the development of retraining procedures in our field. The first movement, programmed instruction, is an outgrowth of the research of B.F. Skinner (1953, 1957 a, 1957 b, 1958, and 1960) called operant conditioning. Its general procedures are: (1) to specify operationally terminal behaviors, (2) to study behavior which is amenable to quantitative analysis, and (3) to present material in the form of small steps or frames, each of which requires an overt response with subsequent experimentation and exploration. Skinner's straight-line sequence has been modified to include programs with branching alternatives, minimizing in some instances the need for overt responses in every case, or the explicit teaching of every programmed frame, and that when frames are well-written, confirmation is not always necessary (Green, 1962; Lumsdaine and Glaser, 1960; and Glaser, 1965).

The second major movement came from the field of automation, particularly from computer control. The techniques that led to completely automated production lines also led to Computer Assisted Instruction (CAI). Industry and business pioneered the field, and have now turned to the problems of automating education itself (EDUCOM. 1966-68; and ENC. 1969). CAI is expected to be widely employed in schools by 1980. The present high cost of computers will have dropped by then, and programmed instruction will have been further refined. Many educators feel that CAI can be used immediately to teach fundamental subjects and to individualize instruction (*ENC*. IV-I, 1969, p.2). Although there is speculation about "thinking machines," computers are best viewed as very sophisticated programmed holders. All of the hardware components of a basic automated therapy system are available today; the software system, probably consisting of instructional sequences of programmed instruction together with multimedia programs presented primarily in contingency management settings under computer control has yet to be developed. At the least, a major portion of the therapy now available only in one-to-one or small group client-clinician relationships should be amenable to a semi- or fully automated man-machine presentation. With sequences written so that a majority of patients with similar disorders can profit from the same program, the clinician will be freed to concentrate upon the unique individual behaviors not served by the system.

The third major movement was the use of behavioral modification techniques or conditioning therapies as advocated and reported by investigators like Bijou and Baer (1961), Wolpe (1958), Wolpe and Lazarus (1966), Wolpe, Salter and Reyna (1964).

Using the principles of modification, behavioral disorders were modified faster and with greater success than those treated by more traditional methods. Behavioral modification techniques have been successfully applied to a variety of conditions. Of the 90 to 95 percent of treated cases which responded positively, less than five percent have shown a return of the treated symptom.

The fourth major movement is systems analysis. The term "system analysis" is used here in the general sense of "... the application of scientific methods and tools to the prediction and comparison of action involving man-machine systems" (*Phi Delta Kappan*, 1967). Originating at the close of World War II system analysis has come into more general use with each passing year, being applied broadly as an integral part of the technical community to study the effect of technological innovations in the military establishment and in the automation of industry (Ackoff, 1961; Eckman, 1961; Malcolm, 1959; Cook, 1966; DeCecco, 1964; Phi Delta Kappan, 1967; and Rath and Struve, 1966). The systems approach is primarily a way of examining a process by concentrating on the interrelated parts of that process and how those parts articulate to accomplish the purpose for which the system exists. When a subsystem is open to examination and the total process is not, the interest is still on the whole. Moreover, the new and old are viewed together as parts that function together. The result is that "... it frequently becomes possible to ferret out those elements most likely to degrade the total operation" (Phi Delta Kappan, 1967). These degrading elements are identified as "system-limiting" and their removal or modification produces innovations that contribute markedly to the operation of the total system. In the end, systems analysis is both descriptive and prescriptive of innovations that lead to the attainment of the specified objectives of the system.

Systems analysis insists upon an evaluation of the effectiveness of staff, materials, methods, etc., in reaching behaviorally stated goals. There is little doubt that much of the teaching and clinical work in this field will not be defensible when subjected to such an analysis. Clinicians will find it difficult to defend their activities -- to defend vague goals, to select materials and methods which are unrelated to their goals.

To recapitulate, programmed instruction, computer assisted instruction, behavioral modification techniques, and system analysis should result in:

(1) objective analyses of current training and clinical activities, (2) the development of techniques applicable in all training and rehabilitation settings, and (3) the development of efficient automated systems for clinical training.

Systematic use of the above principles have been encouraging. For example, the efficiency of discrimination training can be increased (Holland, 1960, 1963; Garrett, 1963, 1964). Automation of articulatory training sessions seems to be effective with mentally retarded and brain-damaged children (Garrett, 1968 and McLean and Spradlin 1968).

Operant procedures appear to be useful in the reduction of stuttering (Goldiamond, 1962; Perkins and Curlee, 1969; and England and Gray, 1968).

Voice disorders are extremely amenable to operant techniques. Several authors have reported using operant techniques on functional voice problems, voice conditions resulting from arrested organic conditions, and with deaf adults. The changes that were produced showed no remission after a year.

Programmed instruction has been used to teach syntax (Taylor, 1964; Holland, 1967 and 1969; and Keenan, 1966).

We come at this point to two parallel conclusions:

1) Behavioral modification techniques are applicable in speech, language, and hearing therapy. They save tremendous amounts of time. They may produce results not achieved by other methods.

2) Training programs must reevaluate their goals and requirements. If supportive personnel are to be trained in conjunction with established training programs, it is imperative that all students be taught efficient clinical procedures first and theoretical considerations second. In essence, supportive

personnel will be technicians who can "do" things but are not able to "explain" them. The professional will be responsible for explanation.

Emphasis on diagnostic procedures should be restricted to doctoral level training. The majority of master's level people do not fill diagnostic positions. They need to be extremely competent behaviorally trained clinicians.

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ASHA'S RECRUITMENT PROGRAM

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Our report of the recruitment activities of ASHA will outline some of the fundamental assumptions and concepts which have guided the development of the program.

The results of the Manpower Study and the recommendations emerging from this Conference will call for a reevaluation of some of our assumptions about recruitment needs. We can, nevertheless, cite four closely related assumptions which previously guided us in planning ASHA's recruitment program.

The first and most obvious assumption is that we need many more qualified individuals available for placement in virtually every type of clinical and research program. Precise estimates of the magnitude of these needs are difficult to acquire. Extrapolation from estimates of the prevalence of speech and hearing disorders may be misleading since these prevalence estimates are themselves questionable. The statements about personnel needs prepared for state and federal agencies may be influenced by their authors' eagerness to obtain increased financial support for clinical and educational programs. On the other hand, most of us who adminster clinical and research programs are constantly plagued by personnel shortages. Unquestionably, large areas of program development remain untouched because of the unavailability of qualified professionals. Hopefully, the present Manpower Study will help us define more specifically the moment of our personnel needs.

The second assumption emerges from recognition of the growing complexity of our field and from the assignment of the major segment of professional education to the graduate level. These factors have directed some changes in the audience for our recruitment efforts. A large proportion of our audience was once comprised of students majoring in the speech arts. A career devoted to helping people improve their communication or to the study of the basic processes of speech and hearing seemed to be a logical extension of interest in other aspects of effective use of the spoken word. But the areas of our professional concern have, during the past two decades, broadened and deepened until a student who lacks thorough grounding in the biological, physical, linguistic, and behavioral sciences now faces formidable disadvantages when he begins his professional education. Presently, therefore, our prime audience is comprised of students whose interests in human relationships does not exclude some interest in the sciences.

The assignment of major portions of professional education to the graduate level had at least two effects on recruitment efforts. We became interested in only those students who were motivated toward and could qualify for graduate study. Furthermore, we entered a new league of competition since our basic educational requirements now equalled such prestigious and renumerative fields as engineering, architecture, pharmacology and many of the laboratory sciences.

Our third assumption relates closely to the second. The scope of our professional endeavors has broadened to the point that our field can, and indeed must, attract people of widely differing interests. Some of our recruitment programs have been as effective in discouraging some of the young people we need as they have in interesting others. For example, many recruitment efforts have embodied our profession exclusively in the person of a 25 year old female teaching speech skills to children in a public school setting. Although this may describe one valuable segment of our membership, this personification will not attract some of the individuals we need urgently in many clinical and research settings. We must project the image of a profession comprised of diverse individuals bonded only by mutual concern for the science rather than the art of human communication. These individuals engage in a wide variety of specific careers. Unfortunately, this image lacks the specific kind of product identity considered essential on Madison Avenue. Nevertheless, if we are ever to meet our long range personnel needs, we cannot afford to restrict our audience exclusively to potential candidates for a specific career within the profession.

Our fourth assumption has been again a logical extension of previous assumptions. Many of us believe that even greater than our need for more professionals is our need for greater maturity among the practitioners of our profession. In discussion of professional issues, I am frequently reminded of Oscar Wilde's observation that in America our youth was our oldest tradition. The 1964 survey of ASHA's membership showed that over 60% were under 35. Furthermore, the number of members under 24 was greater than the number over 46. Usually, time alone takes care of immaturity if we measure maturity only in years. But in this instance another answer must be found. In many segments of our profession, careers are very short. I have heard school program administrators estimate the average total professional life of their staff members to be three or four years. Some supporting data may be evident in the studies reported by Fricke and Johnson (1969) and by Castle and Johnson (1968). They found that approximately 65% of the ASHA members employed in schools and 70% of the members employed in other types of clinical settings had less than ten years of experience. Actually, of the members employed outside of the schools, almost 50% had less than five years of experience.

Two implications for recruitment are immediately apparent. We must bring more young men into the profession and offer them sufficient opportunities for advancement to encourage them to remain. Also, we must direct specific recruitment efforts toward women who have retired from marriage and motherhood. As their family responsibilities lessen, many of these women may be available for employment at least on a part time basis. This particular recruitment effort may also entail planning refresher courses and, at least for an interim period, some special consideration with reference to requirements for clinical certification.

If these four assumptions broadly characterize some of our recruitment needs, we must then characterize the potential role of our Association in meeting these needs. The study reported by Sheehan, Hadley, and Lechleidner (1964) five years ago reiterated the findings of virtually every study of recruitment in all fields. Well over 80% of the people who enter our profession are "recruited" either through some sort of introductory college course or through frequent personal contacts with someone in the profession. They concluded, "Just as working with people and helping them is important in career satisfaction, so personal contact appears to be a necessary ingredient in attracting people into the profession." Clearly, then this single most important ingredient can never be provided directly by a single Washington, D.C. based recruitment office. The essential role of any national level recruitment program, then, is encouraging and supporting local-level recruitment activities. Very generally, we can identify four areas where national-level efforts can be most effective.

The first area is the identification of our profession to the American public. This effort may be directed as much toward health education as toward recruitment. Nevertheless, even though direct personal contact is the most effective means of recruitment, the first step in recruiting is informing potential candidates that the profession exists. The recruitment program of the National Association of Hearing and Speech Agencies has assumed the leadership in the type of public education program through a broadly based plan for use of mass media.

The second area involves alerting local and state level professional groups to the need for organized recruitment activities and establishing effective communication networks. These networks must provide effective two way communication between national and local programs and among the local programs themselves. Such a network should insure, for example, that any young person who directs an inquiry about the profession to the national office is contacted personally by someone in the vicinity of his home community. It should also insure immediate availability of information about trends in manpower needs, and specific notification of relevant recruitment activities by all interested organizations.

The third area is the development of detailed guidelines for local recruitment programs. Frequently novice program planners expend substantial efforts on types of recruitment programs that are widely recognized to have little or no impact. As we mentioned earlier, some of these efforts may even discourage many of the students we need most urgently.

The fourth area is the production and distribution of the materials that can assist in recruitment programs. These materials may include brochures, films, exhibits, and recordings. Frequently, the creation of materials is considered to be the most important part of a recruitment program. But in proper perspective, the production of materials is only a supportive secondary aspect of an effective recruitment program.

Our professional youth is also reflected in our novice status as recruiters. We have much to learn. The notions I have outlined have been helpful. Like all youthful notions, nevertheless, they will undoubtedly change as we acquire further experience and sophistication.

REPORT OF THE RECRUITMENT COMMITTEE

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ASHA POINT OF VIEW

The American Speech and Hearing Association Recruitment Program believes that the most effective recruitment technique is person-to-person contact between members of the profession and potential recruits. The challenge and responsibility of encouraging qualified young persons to pursue careers in speech pathology and audiology rests with the profession. To meet the competition for qualified manpower, we encourage the implementation of model recruitment programs conducted annually at the state and local levels. In addition, we believe that such programs must be implemented, followed, and evaluated for their effectiveness before realistic future planning at the national level can be detailed. We recommend that Federal and State agencies earmark funds to support well-designed recruitment proposals by state and local groups.

ASHA RECRUITMENT PROJECTS

1. Advisory Committee

The ASHA Advisory Committee on Recruitment schedules a minimum of two meetings each year to establish short and long range goals and to make recommendations to the Executive Board about specific programs. The Advisory Committee has studied many national and local recruitment programs, has solicited recommendations from state associations and individual members of ASHA, and has allied itself in the recruitment effort with the National Association of Hearing and Speech Agencies (NAHSA). The Joint Advisory Committee for ASHA-NAHSA met in September 1967, and in April, 1968, to coordinate recruitment efforts and to prevent unnecessary duplications. NAHSA is exploring the use of mass-media in its recruitment efforts at the national level and ASHA has focused its energies on recruitment programs at local levels. A special effort is being made to recruit individuals to the profession from minority groups.

2. Staff

ASHA has appointed Miss Lucy Hession as full-time director of recruitment to implement national level recruitment projects which are designed to provide assistance to recruiters in state and local programs.

3. Manual of Guidelines

A substantial amount of data and information from studies of recruitment programs, interviews with guidance personnel, and service or career literature, in addition to specific suggestions for recruitment programs has been selected for inclusion in a Manual of Guidelines, which is being distributed to designated persons (recruitment chairmen) in state associations, training program directors, speech and hearing supervisors in state health and education departments and clinic directors for use in their recruitment efforts at the local level.

4. Workshops

To aid in implementation of recruitment activities at the state and local level the national office, with funding from SRA, is sponsoring nine one-day workshops within the nine federal regions during the months of April and May, 1969, focusing on the use of the recruitment manual and the career materials.

5. Career Information Booklet

The career information booklet, "Speech Pathology and Audiology" developed and distributed by the American Speech and Hearing Association in 1964 has served as the most detailed piece of information about the profession. To date, in excess of 225,000 copies have been distributed to interested persons.

6. Guide to Clinical Facilities in Speech Pathology and Audiology

The American Speech and Hearing Association has prepared a Guide To Clinical Facilities in Speech Pathology and Audiology. To assist other professions and organizations which use its services and which cooperate, in turn, by informing and influencing interested persons in speech pathology and audiology, the "Guide," which is similar in format to the Guide to Graduate Education in Speech Pathology and Audiology, is a complete listing of service facilities within communities throughout the United States. Included in the listings are university and college clinics, hospital and community centers as well as individuals in private practice.

Distribution has been made to directors of all services including rehabilitation and community centers, pediatricians, neurologists, otolaryngologists, supervisors in state boards of health and education and state association presidents and their recruitment chairmen.

7. Special Group Materials

The following is a list of resource publications:

a. Speech Pathology and Audiology -- Career Information

b Career in Speech Pathology and Audiology

c. Opportunities for Graduate Opportunities in Speech Pathology and Audiology

d. A Guide to Career Education in Speech Pathology and Audiology

e. Fact Sheet on the American Speech and Hearing Association

f. Accredited Training Programs in Speech Pathology and Audiology (continually being revised)

In order to reach special service-oriented groups, career information has been mailed to Peace Corps returnees, Vista Volunteers and Future Teachers of America chapters. Special release material has been sent to these organizations for publication in newsletters and employment bulletins.

The recruitment director has updated and rewritten material for Occupational Briefs, published by commercial career organizations for high school students.

To interest an older population, detailed information on the profession, its educational requirements and employment opportunities, has been presented to a group of women enrolled in George Washington University's "New Horizons for Women," a course which surveyed a variety of new vocations for persons preparing to reenter professional life. Five students of the twenty-five contacted have indicated they plan to enter graduate programs in speech pathology and audiology. In addition, speakers are available and career literature is provided for conferences.

The recruitment director distributes materials to professional educational groups, special groups within medicine and dentistry, persons in social work, parent associations and educational television.

Frequent contact has been maintained with other professional organizations having similar recruitment aims such as, the National Society for Crippled Children and Adults, the National Association of Social Workers, Health Career Councils, the American Occupational Therapy Association, Future Teachers of America, the Peace Corps, and Vista Volunteers, thus affording an exchange of information on current and projected recruitment plans of these respective organizations. Mailing lists of recruitment contacts is kept available at the National Office.

Continous requests for career literature has led to the reprinting and revising of "Speech Pathology and Audiology -- Career Information," and "A Career in Speech Pathology and Audiology."

8. Exhibit and Press Kit

A portable exhibit is being prepared for use at professional meetings and career days. This exhibit can be reproduced at a moderate cost. The press kit includes press releases that can be modified to fit local situations, pictures representing various aspects of speech pathology and audiology, data on recruitment needs and an explanation of the profession and its professional organization.

9. Correspondence with Potential Recruits

Approximately 150 requests for career information are received weekly by the National Office. More than 3,000 queries from students for information have been answered during a six month period.

A Joint Advisory Committee Meeting is tentatively being scheduled for April 22 and 23, 1969. The ASHA Recruitment Committee will meet in July to study the results of the regional workshops. In addition, we will resubmit an application to the Rehabilitation Services Administration in order to fund a second series of regional workshops for 1969-1970.

SELECTION, TRAINING, AND USE OF NONPROFESSIONAL PERSONNEL IN REHABILITATION COUNSELING: THE TRAINED PRACTICAL COUNSELOR

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My purpose today is to describe our experiences, at the Arkansas Rehabilitation Research and Training Center in the selection, training and use of personnel who have not acquired professional status in the work they are doing -- that of rehabilitation counseling. Throughout my discussion, I will refer to these people by the various terms that we professionals have chosen in our effort to make a clear distinction between them and us.

My deep interest in the growing need to resolve manpower problems in the health services, has allowed me to encounter a fascinating circumstance arising out of the fact that we professionals cannot produce other professionals at a rate equal to the demand for service.

I refer here, to the intense pain we experience when confronted with notions of giving up some portion of what has been exclusively ours, to someone who is not really one of us.

This is not to be taken lightly, of course, and I believe that, if modifications in our professional service to people are necessary, we must ultimately direct and take responsibility for them.

It is evident from remarks made at this conference and elsewhere, that rehabilitation counseling like many other service professions has a deep concern for the provision of services and for program effectiveness.

In rehabilitation counseling we can provide intentionally structured in-service training to people who are without university degrees or who have not achieved high school diplomas. If we use the best of our current knowledge in selecting them and in structuring their on-the-job training, we will be able to produce a person who, under supervision, can excel in a variety of helping roles.

The number of people potentially available to enter training of this type is substantially greater than the number of people eligible to enter graduate study in any one of the broad areas of rehabilitation. Considering the relatively small investment in training and selection because of the fact that they are not "professional," we can exercise great freedom in removing those who sour in their job or who become ineffective or damaging.

I would like now to describe briefly our own approach to selection, training and utilization, based upon a growing body of knowledge and experience in Arkansas and in other regions of the country.

SELECTION

Three principle components basic to the selection procedure for both professional counselors and their nonprofessional equivalents, the trained practical counselor are:

1) Judgments by the employer of the candidate's general abilities, dependability, sense of responsibility, ethics, appearance and other similar considerations. No doubt the standards differ depending upon the vocational environment. For example, we might apply different criteria to those working in a ghetto setting.

(2) Personality and interpersonal skills, such as Accurate Empathy (Truax, 1968). We have been using the MMPI (Minnesota Multiphasic Personality Inventory) and the EPPS (Edwards Personal Preference Schedule) as selection devices. We have searched for candidates who (using k-converted raw scores of the MMPI) scored less than twenty-seven on Pt, twenty on D, thirty on Mf, twenty-one on Si, thirty on the Welch Anxiety Index from the MMPI, 0.92 on the Welch Generalization Ratio,

and who score higher than 19 on Ma and 142 on the Constructive Personality Change Index of the MMPI. Using the Edward Personal Preference Schedule for selection we have looked for candidates who scored less than 10 on N Deference, 8 on N Order, 21 on N Intraception, 7 on N Abasement, 11 on N Consistency, and who scored higher than 14 on N Dominance, higher than 17 on N Change and higher than 14 on N Autonomy. Our selection procedure enables us to find individuals. with natural therapeutic or interpersonal skill. These are people who are low in anxiety, depression, introversion, and who, at the same time are striving, strong, dominate, active and autonomous, stable, have high ego strength, are "nice guys," and are strong rather than passive individuals.

3) Candidates are informed that they should appreciate the feelings, problems, strengths and weaknesses of their clients. They are placed in the role of a group leader and conduct a session. Tape recordings of the sessions are rated, using scales developed in our research (Truax and Carkhuff, 1967), on accurate empathy, non-possessive warmth, and genuineness in interacting with clients, and degree of self-exploration.

Using the above mentioned rating scales we selected people who are skilled in interpersonal relations and who were able to provide adequate levels of therapeutic conditions. Of 34 individuals who passed the first two criteria, only 7 were able to achieve these higher levels of interpersonal skills.

In our continuing effort to improve selection, we have incorporated two additional features of well skilled counselors -- persuasive potency and constructive confrontations.

In summary with our procedures we can select candidates who are "inherently helpful," those sought out by neighbors and friends in times of distress. The question becomes now, what can we do to make him more helpful, and how, particularly if he is a nonprofessional, can we best use his abilities.

TRAINING OF NONPROFESSIONAL COUNSELORS

With on-the-job training the newly employed nonprofessional will receive very specific and concrete feedback about his performance in filling out forms adhering to agency regulations, and ability to follow standard operating procedures. Also, his interpersonal skills and the average level of benefits obtained by his clients will be assessed.

The three central elements in the training approach can be summarized as: (1) A therapeutic context in which the supervisor communicates high levels of accurate empathy, non-possessive warmth, and genuineness to the trainees, (2) development of the trainees' skills in empathy, warmth, and genuineness and (3) a focused group-therapy experience which allows the emergence of the trainee's own idiosyncratic therapeutic self.

While a complete description of the training program is contained in Truax and Carkhuff (1967), a brief comment or two will clarify the didactic nature of the training. The scales are used to identify tape-recorded samples of experienced therapists who are, in fact, offering very high levels of therapeutic conditions: thus, providing models for imitation. The trainees are taught to use the scales so that they can identify high and low levels of empathy, warmth, and genuineness in their own therapy and in that of others. "Empathy training," "warmth training," or "genuineness training" is provided by requiring trainees to make spontaneous "therapeutic responses" to tape recorded sessions. These responses are rated on the research scales and are immediately interpreted to the trainee. In this way, their responses are shaped toward higher levels of empathy, warmth, and genuineness enabling them to begin role playing. Finally, the trainees are involved in one-shot interviews with clients. These sessions are tape-recorded and rated and discussed in class sessions. The basic training program involves less than 100 hours.

In a number of studies (reviewed in Truax and Carkhuff, 1967), it has been shown that trainees (including both professional and nonprofessional counselors) can be brought to a level of interpersonal skill that is (1) nearly commensurate with that of highly experienced and effective counselors; (2) significantly above that of post-practicum and post-internship trainees in counseling and psychotherapy at major universities involved in doctoral training; and (3) effective in producing significant positive changes in mildly and severely disturbed clients. Taken together, the available evidence strongly suggests positive benefit for this approach to training. More recently, the experience of the faculty and staff of the Arkansas Rehabilitation Research and Training Center suggests that more permanent and lasting effects on counselor behavior can be produced by periodic workshops or "seminars" for those who have completed a basic short-term training program. The effect is to reinforce the habit of relating to clients with high levels of interpersonal skills. Recent research by Martin (1968) has demonstrated that trainees in professional counseling also show gains in accurate empathy, non-possessive warmth, and genuineness.

THE UTILIZATION OF TRAINED PRACTICAL COUNSELORS

Training should continue throughout the practitioner's tenure. Nonprofessional counselors are most effective when they are closely and informally supervised on a one-to-one basis with professional counselors. Effectiveness is lost when nonprofessionals are not permitted to handle independently their own caseload (Truax, 1968). Here conflicts between the professional counselor and the nonprofessional are minimized (Truax, 1968). Also, tentative findings suggest that a practical counselor may communicate more effectively and empathically with certain special groups of clients than the middle class professional counselor.

Let me briefly summarize what I have said: First, we extract those factors in rehabilitation process which are significantly related to the favorable outcome of rehabilitative efforts. Second, we use our findings to select individuals who naturally seemed to possess the skills necessary to the process. Third, we refine and increase the interpersonal skills of these individuals. Finally, they are given clients.

With our research model we continually evaluate the effectiveness of the program. We have found that in rehabilitation counseling, the nonprofessional can do the work of the counselor, and that he is most effective when he counsels his own clients under close but informal supervision by a professional.

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THE STATUS OF SUPPORTIVE PERSONNEL IN SPEECH AND HEARING TODAY

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A little over two years ago, ASHA applied to the Vocational Rehabilitation Administration for a grant to explore the role, training, supervision, and impact of supportive personnel upon the fields of speech and hearing. Since that time, the Association has sponsored a Seminar on the Use of Supportive Personnel in Speech Pathology and Audiology (Houston, March, 1967) and an Institute on the Utilization of Supportive Personnel in School Speech and Hearing Programs (Washington, September, 1967). Several individuals in the field of speech and hearing have undertaken research projects. The New Careers Movement has produced thousands of aides. Yet, today, we as an Association are still trying to determine the role, training, supervision, and impact of supportive personnel in speech pathology and audiology.

There is a marked difference between our status of today and that of two years ago. We are much more informed as a group; therefore, we are much better prepared to write the guidelines which are so necessary to the Association in coping with supportive personnel. Two years ago, we were concerned about the wave of supportive personnel coming toward us. It is my opinion that this wave has broken and passed. Supportive personnel in speech and hearing are very much with us today, and it is not likely that they will disappear. Our emphasis in this two year period has shifted from the need for guidelines to govern supportive personnel in the future to guidelines to govern supportive personnel for the present.

I think it is very important for all of us to develop a perspective of the whole supportive personnel movement; therefore, I should like to report today on: (a) what the Committee on Supportive Personnel (CSP) has done, (b) the broad trends in the New Careers Movement that play such an important part in the total picture and which affect how we will utilize speech and hearing supportive personnel, and (c) the many studies, projects, programs, and events that have taken place or are in existence today. Finally, I should like to discuss the implications of this information for our profession.

The Committee on Supportive Personnel (CSP) met in May, 1968, to explore the issue of guidelines. At that time we reviewed existing programs and other evidence so as to develop a set of tentative guidelines to recommend to the Executive Council. It soon became quite apparent that it was too early to consider guidelines. It was resolved, therefore, that on-going research programs and programs using supportive personnel be examined for at least one year. The CSP drafted a series of resolutions for the Executive Council which may be summarized as follows:

1. ASHA should take an affirmative step in accepting the concept of supportive personnel as a means of dealing with the future needs facing the Association.
2. An Information Center should be created, which would serve as a clearing house for all the requests made of the Association concerning supportive personnel.
3. A careful study if what we do and how we do it should be undertaken to determine roles and tasks more clearly before we begin delegating such duties and roles to other persons.

4. ASHA should get involved in a research project in order to determine roles and tasks.

5. ASHA should discourage the American Association of Junior Colleges from recommending the initiation of programs in speech and hearing for supportive personnel during the coming year (1968-69).

6. ASHA should study other ways to solve the problem of need for service, such as programmed instruction, etc.

7. Effective supervision of supportive personnel is a real issue, is very complex, and requires careful study before conclusions might be reached concerning how to solve the problem of supervision.

Subsequently, the Committee was asked, by mail, to react to three statements: (1) That all programs utilizing speech and hearing supportive personnel should register with ASHA, (2) That all Teaching Assistants used in the public schools, who are involved in the teaching process in speech and hearing programs, should have at least a two year college education, and (3) That all supportive personnel involved in speech and hearing programs should be under the supervision of a professional holding an appropriate Certificate of Clinical Competence. While the Committee could agree in principle on (1) and (3), members disagreed widely on statement (2). The Committee felt that while registration and supervision statements were desirable, issuing finite guidelines at this time might be meaningless in that they would be difficult to enforce.

In appearing before the Executive Council, the Chairman of the CSP made a statement of urgency (Denver, 1968), and was advised to do what he could to implement matters as quickly as possible. Since the Denver meeting of the

Association, an Information Center has been established by the Chairman of the CSP at Our Lady of the Lake College and the Harry Jersig Speech and Hearing Center. In order to gather information, the Center undertook a survey of over 200 selected agencies, centers, universities, and individuals to determine the nature and extent of the use of supportive personnel in the United States. A large volume of information has been amassed. Much of the remainder of this report will deal with the results of that survey.

A survey of existing activities, programs, and research yielded the following information:

1. Drs. William Grimm and Richard Ham have been engaged in a two-sided project in which the former (Grimm) studied the use of audiological technicians, while the latter (Ham) studied the utilization of speech clinicians as supportive personnel in Ohio.

2. Dorinda Kirtley, Project Director, Indiana State Department of Education, received a grant "to provide more speech and hearing services in Urban and Rural areas." Kirtley selected eight aides, widely recruited, early in the Fall of 1968. The aides were given an intensive three-week training program in speech rehabilitation.

Kirtley regarded her aides as "technicians working under authority." Each aide was assigned to a given speech clinician in the public schools. At the outset of the program, both aides and clinicians were enthusiastic. At a meeting in February, 1969, some of the enchantment had faded to disenchantment on the part of three of the paired aides and clinicians. The problem in all three cases was one of personality conflict. Kirtley points out that the conflicts seem to be attributable to personality "quirks". At the present time (March, 1969) the goals for the project have only been partially reached. Kirtley concluded by saying that Indiana at the present time is considering legislation to finance speech and hearing aides in the State. They will be paid approximately $2 an hour.

3. Dr. Jerome G. Alpiner, University of Denver, undertook a research project entitled, "The Utilization of Supportive Personnel in Speech and Hearing." The project was financed by the Colorado State Department of Education under Title VI. Alpiner wished to test the feasibility of speech aides in the public schools in the Denver area. He recruited 10 speech aides, ranging in age from 19 to 57 years. The aides were given a three-week training period involving lectures, demonstrations, practicum, etc., for five hours per day, five days per week. The aides were assigned to supervising speech pathologists in the Denver school area. The activities of the aides included - articulation disorders, 51%; clerical duties, 29%; grammatical disorders, 14%; hearing problems, 4%; and others, 2%. Articulatory retraining involved auditory discrimination response production in words and sentences. In concluding his report, Alpiner states: (a) aides can be used effectively, (b) the best areas include articulation retraining and clerical duties, (c) aides should have at least a high school education and desire to work with children, (d) some preparation of speech clinicians is necessary prior to assigning supportive persons to them, and (e) the clinicians should be able to choose what the aides do. Alpiner has a follow-up study in progress to demonstrate much the same kind of approach in rural areas.

4. Dr. Allan Drexler, Director, Cincinati Speech and Hearing Center, conducted a study to analyze the impact, if any, which supportive personnel might have upon the staff of an institution. The impact, he felt, should be discernible

in the attitudes of the staff as a result of having aides available to them. Drexler reports that the staff definitely became more amenable to the use of supportive persons as professional helpers. Each staff member serves as his own control. Measures of evaluation are administered at critical times during the study, which is still in process. A curriculum for one year of in-service training has been developed.

The chief findings to date seem to be in the clinical area rather than in the attitudes of the staff members. To quote Drexler, "The fascinating part about this study is that we have found a number of cases where therapy has been very much reinforced by supportive persons, and as a result, has 'boomed'."

Drexler points out that in the early stages it takes much extra time to train supportive persons, to give them specific goals and the necessary techniques, but that the pay-off comes later, after the supportive persons have assumed more responsibility for the speech pathologist's patient. A full report of this project will be forthcoming.

5. Dr. Jack L. Bangs, Director, Houston Speech and Hearing Center, initiated a project over two years ago, sponsored by the Office of Economic Opportunity (OEO). As you know, OEO typically sponsors on-the-job training projects, underwriting the cost the first year, paying 50% the second year, and expects the consumer (or training institution) to assume responsibility for the trainee during the third year. The training institution must either hire the supportive person or find a job for him in the community. Bangs screened a number of underemployed persons (working in jobs under their maximum capacity). He eventually selected 9 trainees, 3 males and 6 females. The males dropped out rather quickly for economic reasons, and two of the six females dropped

out for other reasons. The four remaining trainees were given on-the-job training and were assigned to a professional in the Center. One became an audiology trainee and in time was conducting routine audiometry without supervision and diagnostic audiometry under direct supervision. Trainees made no decisions and gave no counseling.

Bangs also stressed that all trainees were not under supervision, but under direction. Two trainees functioned as teacher clinicians in pre-school programs for language handicapped children at the Center. They gave no counseling, made no independent decisions, and worked directly under an experienced clinician. Each trainee was assigned a room and held three classes per day. The supervising clinician circulated from room to room.

At the outset, all trainees attended orientation sessions. Later, they received lectures twice weekly on language and speech habilitation and rehabilitation. The fourth trainee worked away from the Center and performed identical services to the other two language trainees. She functioned in a maternal and infant care center, holding three classes daily. All families involved in the project were indigent.

Bangs reports that he has not had any complaints from his clients and insists that the program provides virtually the same services as if the supervising clinician were in charge of all activities. The professional staff of the Center were resistant to the notion of supportive persons at first, but in time have made a complete turn-about in attitude.

All trainees are currently going to college at night, taking English and speech courses, and expect to improve their speaking and writing skills. It is too early to determine whether any of these persons desire a bachelor's degree or clinical certification. Currently, their salary is approximately

$350/month.

Today, Bangs concludes females rather than males should be chosen for supportive persons, and preferably females who have children of their own and relate well to children in general. He added that his best teacher was a trainee with only an 8th grade education.

6. In California, the Learning Rehabilitation Service, a service of the Oak Hill School, used aides in situations where the emphasis was on drill. They were also used for home visits to establish an on-going relationship between patient and Center, and to relate the work at the Learning Rehabilitation Service and the school work to behavior at home. Miss Ganea Picaizen, stresses that while the project has only been in existence for a year, it has been successful.

7. Mrs. Dee Todd, who was formerly with United Cerebral Palsy at Northeastern, Wisconsin, started an aide program to supplement work in speech and hearing. She found that the most successful aides were those having previous training in allied areas. Her most successful aides were housewives, 40 to 55, who had the desire, but were without the opportunity to work toward a degree. After the aides had served the program for some time, Todd concluded that the term "successful" should be equated with such qualities as flexibility, creativity, and objectivity.

8. Edwin R. Page, Director, Speech Pathology and Language Development Services, Plymouth State Home and Training School, Michigan, utilized supportive personnel in areas of speech and language development. The school serves mentally retarded patients. One of Page's supportive persons was an audiological technician. All work was under the supervision of the professional staff at the Plymouth Home. The non-professionals served as ward

attendants directly responsible for the on-going care of in-patient personnel. Aides worked directly with attendants at ward levels by giving them instructions. This permitted ward level follow-up of the clinical activity administered by the speech pathologists. Also, language development stations were established on various wards, which proved highly successful. The only real problem encountered with this program was the high level of staff turnover, which hampered clinical efforts.

A foster grandparent program provided language stimulation for children, which has been under the direction of a speech pathologist. This program has obviously worked well, although no systematic attempt has been made to evaluate its efficacy.

Page feels that colleges are not always realistic about aides and what they really need to know, as the former appeared to be more interested in core curriculum than in the specific skills and information which aides need.

9. At the present time, I am conducting a research project sponsored by the Texas Education Education Agency (Division of Special Education) to determine the efficiency, economy, and effectiveness of teaching assistants trained as articulation clinicians to serve in the public schools. The goals of this project have been to develop an effective model extending or providing speech services to children with articulatory problems, to determine the availability of highly qualified teaching assistants, to appraise the effectiveness of the assistants in discharging their duties, to determine the marketability of the assistants, to determine the effectiveness of the teaching program, to determine the future educational needs of the teaching assistants. Eight trainees were selected from over 100 applicants. The aides ranged in age from 19 to 39 years, had two years of college training, had interest in children and in speech pathology and audiology, and had a desire

screening of pre-schoolers, certain audiometric procedures for calibration, routine history taking, group hearing aid and amplifier check, and group speech evaluation. The technicians are helpful in implementing schedules, publicity, liaison, interpretation and reporting. They also assist in referral to professional personnel following screening.

The technicians range in age from 40 to 55 years, many are married and many are only interested in part-time work. They have a wide range of educational achievement and have formed a code of ethics. They are careful not to take over functions for which they were not trained. Osborne feels that they have been very successful.

Time does not permit comprehensive coverage of the many reports coming into the Information Center. We should stress, however, that individuals are using supportive personnel in many locations throughout the country and in a variety of tasks. Some of the supportive persons are being used in large numbers in industrial and military programs.

One cannot study supportive personnel in speech and hearing in isolation, for he must relate this activity to the entire New Careers Movement. There is a large body of information which chronicles this movement. The New Careers Newsletter, the official organ of the New Careers Movement, has reported most of the developments of the past two years.

SRA, entering a new era, has rehabilitated over 200,000 persons this past year and has seen a budget increase from $116 million (1963) to $1 billion (1968-1969). This is 30 times the amount of the funds made available by the Scheuer Amendment. By 1975 the Department of Labor estimates that there will be a 40% increase in Government employment, a need for 2.4 million additional for more training. A teaching syllabus was developed for the 21 day course. Demonstration and practicum were stressed. The teaching assistants were assigned to selected schools in Bexar County, Texas. Two experienced clinicians were assigned as supervisors and the teaching assistants were assigned to second-grade children. The project is now nearing the practicum stage and will attempt to study close supervision as compared to loose supervision, individual training as compared to group training, highly-developed programmed learning sequences with little decision making as compared to learning sequences with optional techniques and liberal decision making. Findings, results, and conclusions will be presented later this year.

10. Courtney Osborne, Michigan State Public Health Speech and Hearing Program, has outlined his program for supportive personnel in "The Technician". This program has utilized non-professional technicians to perform routine tasks in speech and hearing since 1954. No academic requirements are made, but a high school education is preferred. Osborne stresses that a pleasant personality and experience with children are most highly desired in selecting supportive personnel.

Technicians are hired and paid by the local community. They may work either part-time or full-time. The salaries range from $15 to $24 per day; full-time salaries range from $4,000 to $6,000.

An intensive training course is given by Wayne State University and the Michigan Department of Public Health (M.D.P.H.), 6 hours per day, for 6 weeks. No credit is given; however, a certificate is issued. This certificate is honored by the Hearing and Speech Section of the M.D.P.H. Technicians must attend a three-day intensive workshop to renew their certificates.

The technicians perform screening and identification audiometry, language teachers, an 85% increase in counselors, and 105% increase in health technicians.

Representative Scheuer stresses that the New Carerrs Movement must give rise to a new concept in career planning. Additionally, the SSEU (Social Services Employees Union) says "we want not jobs, but jobs with a future".

The New Careers Movement has involved large numbers of persons seeking positions as supportive personnel. For example, there are over 600 supportive persons in the Los Angeles area alone. The New York Teacher Aide program has swelled from 1,500 to 5,000 as of the present day. There are over 900 new careerists in Pittsburgh, Pennsylvania. Wayne County, Michigan reports that 4,904 school aides are currently working in their area.

The New Careers Movement has stressed: (a) opportunity to the economically deprived or underemployed, (b) a career, not simply a job, (c) vertical and horizontal movement (by vertical movement we mean the ability to achieve higher levels of job classification) and (d) provision for in-service training and/or educational programs.

The New Careers Movement has met with many outstanding successes. For example, the University of Minnesota (Center of Urban and Regional Affairs), Minneapolis Public School System, the local OEO program, and the College of Education, the College of Liberal Arts, and the Extention Division, all of the University of Minnesota, and the State Department of Education have collaborated on a job-education career program. Briefly, in the Spring Quarter, 1968, 181 aides were enrolled in the educational program, of which 150 were in the general college program. The prediction is that after two years, 87 of the supportive persons will have finished at least one year of college credit, 38 will have completed their A.A. degrees, one will have finished his B.A., and 35 will have less than one year of college credit. All of the aides work part-time in the Minneapolis Public School System, and go to school the remainder of their 40-hour week. The part-education, part-work program has been most successful.

The New York Public City School program has been considered an outstanding success. Eighty percent of all trainees elected to go to school at night on their own time and at their own expense. The consensus of opinion is that the majority of this group will attempt to move upwardly toward teacher certification.

One must ask the question, "What happens when no provision is made for in-service education or upward movement?" The Scheuer aides in Oakland called a meeting to determine their future needs and concluded that they must either unionize or form an Association in order to bring pressure to bear upon their employers. The supportive persons involved at this meeting also stressed that they needed more education and that they must petition for more in-service education or for provision of further education in local junior colleges, community colleges, or four-year colleges. In addition, the Scheuer aides considered petitioning for higher wages.

One must also ask, "What is the pressure on the American Speech and Hearing Association to act?" Obviously, there are many programs which have existed for several years, and it seems quite likely that many more will be added to this number. Several states have provided for aides through legislation, e.g., California, Minnesota, and New York. The Texas Education Agency is currently considering legislation to establish line positions for Teaching Assistants and Teaching Aides as a means of solving many of their personnel problems, financing, and new models for service.

Many requests have already been made of the Committee on Supportive Personnel and Association. The requests come mostly from two sources: (a) Junior Colleges (through their Academic Deans) asking for guidelines in setting up Junior College programs in speech and hearing, and (b) from members of ASHA desiring to set up programs either in hospitals or Junior Colleges in order to train supportive personnel.

It is obvious, then, that the time has come for action. Indeed, it seems that as an Association it is imperative that we act now, not for the future, but for the present.

THE OHIO PROJECT *

William A. Grimm
Ohio Department of Health
Columbus, Ohio

This report reflects an attempt by the Ohio Department of Health to establish an adequate training program for audiometric assistants in field service programs. The ability of supportive personnel to conduct hearing screening tests and to obtain different types of audiometric test scores also is presented.

Five girls, ages 18 and 19, were selected from 19 high-school graduates referred by the Youth Opportunity Center of the Ohio State Employment Service. Annual salary was $4,500.00.

Their training program included instruction in the following audiometric tests:

1. Individual pure-tone-air-conduction sweep testing.
2. Screening of children 3-5 years old.
3. Pure-tone-air-conduction-threshold testing without masking.
4. Pure-tone-air-conduction-threshold testing with masking.
5. Pure-tone-bone-conduction-threshold testing with masking.
6. Auditory screening of infants 8-14 months old.
7. Threshold testing of children with mental retardation.
8. Weber tuning fork testing.
9. Rinne tuning fork testing.
10. Speech-reception-threshold testing by air conduction using recordings.
11. Speech reception threshold testing by air conduction using live voice.
12. Speech reception threshold testing by bone conduction using live voice.

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*Supported, in part, by Children's Bureau (C-226).

13. Speech discrimination testing.
14. Tone decay testing.
15. SISI testing.
16. Detection threshold testing.
17. Auditory screening of neonates.

In general, supervised practice followed the descriptions of each test.

Initial practicum experiences were under the supervision of audiology consultants from the Ohio Department of Health and included the following:

Test Procedure	No. Persons Tested
1. Individual pure-tone-air-conduction sweep tests	7,203
2. Screening of preschool children	123
3. Pure-tone air and bone-conduction threshold tests	851
4. Auditory screening of infants 8-14 months old	40
5. Threshold testing of mentally retarded children	110
6. Auditory screening of neonates.	350

Special attention was given to factors which cause variations in test results, such as mental, emotional, and physical condition of the client, pretest instructions, motivational procedures, testing techniques, and mechanical and environmental noise.

Reading materials, and films presenting information on communicative disorders, child development, child psychology and emotional problems were made available to the trainees.

Subsequent experience, including a one-week preparatory workshop, was obtained in a community speech and hearing center, four days a week for a ten-week period.

At the end of the training period, the supervising audiologists agreed that the trainees could administer adequately the testing assignments, but that supervision should be available.

Comparisons with Professional Audiologists

The students were then compared with professional personnel using audiometric scores as criterion measures.

1. Pure-tone air-conduction-threshold testing.
2. Pure-tone-bone-conduction-threshold testing.
3. Speech reception thresholds of retarded children.
4. Speech reception threshold testing.
5. Speech discrimination testing.
6. Testing newborn infants.

Pure-tone-air-conduction-thresholds. The testing took place in several field-clinics of the Ohio Department of Health. Each trainee and a professional tester examined on the same occasion ten children for frequencies 250, 500, 1000, 2000, 4000, 8000 (right and left ears). For this test as well as for subsequent tests, order of testing was alternated between professional and trainee. Comparisons between clinicians and trainees were averaged for each frequency separately. In 42% of the instances there was no difference between the trainees' scores and the professionals; in 77% of the instances the difference was plus or minus 5 dB or less and in 90% of the instances it was plus or minus 10 dB or less. Pure-tone-bone-conduction thresholds. Using procedures described above the following findings were obtained:

1. Trainees and professionals agreed in 49% of the instances.

2. The differences were plus or minus 5 dB or less in 81% of the cases and plus or minus 10 dB or less in 94% of the cases.

Speech reception thresholds for mentally retarded children. Ten children, 8-19 years of age, with IQ's ranging from 41 to 52, served as subjects. Five trainees and five professionals tested each child. The SRT test was administered through earphones and only the right ear was tested.

A significant difference between trainees and audiologists was obtained at the .01 level. Generally, trainees obtained threshold scores at lower intensity levels than those obtained by audiologists, although the difference was never greater than 10 dB.

Speech reception thresholds and speech discrimination scores for children of normal intelligence. Ten children, 5-14 years, who were judged to have normal hearing served as subjects. A slight hearing loss was simultated by using TDH-39 earphones (N=5) and a moderate hearing loss was simulated by using (Straightway Sound Projection Model 372-EB) ear defenders.

Testing was free field in a sound-treated booth, stimuli were CID recorded W1 and W2 tests. The scores for the trainees and professionals did not differ significantly.

With the prerecorded CID W-22 test speech discrimination scores were obtained at the time the speech reception thresholds were administered. A difference in discrimination between professional and trainees was not obtained in scores.

Testing of newborn infants. Two experienced staff members of the Hearing Conservation Unit of the Ohio Department of Health and the five trainees administered and tested the hearing of newborns. Stimuli of 90 dB and 100 dB were used. Subject responsiveness was evaluated by a rating scale ranging from 1 (no response), to 5 (maximum response). In 80.3% of the test instances there was complete agreement between the audiologists and the trainees. In 96.6% of the test instances, the variation was no greater than one scale point.

REPORT OF SUBCOMMITTEE I ON OPTIMAL USAGE OF PROFESSIONAL MANPOWER IN SPEECH PATHOLOGY

Thomas J. O'Toole

Discussion Leader: T. O'Toole
Resource Person: Duane C. Spriestersbach

The initial discussion focussed on a number of issues related to clinical productivity, level of training, licensing, inter-professional communication and clinical supervision of speech pathologists and audiologists. Following this discussion, several recommendations were advanced:

1. The American Speech and Hearing Association should assume responsibility for assessment and leadership for all aspects related to optimal utilization of manpower in providing services to the communicatively handicapped.
2. ASHA, and other funding agencies, federal and non-federal, should sponsor institutes, workshops and short courses for the profession designed to demonstrate technological developments which may improve the efficiency of the rehabilitative process.
3. There should be a major effort to modify and streamline programs in order to make them more effective and relevant. There should be very careful study of the needs of those who receive our services. Improved techniques for modifying the many behaviors of our clients should be a prime concern of our universities. Research programs should be established which focus on behavioral technology, provisions for improved client-clinician relations, and an assessment and listing of the many job skills of clinicians.
4. Since careful selection of caseloads will improve the utilization of professional manpower this practice should be encouraged.
5. ASHA should continue to study the legal implications of supportive personnel.

6. The use of supportive personnel might result in three levels of clinical responsibility, professional, pre-professional and technical and that some decisions will need to be made as to the level of academic training and clinical supervision required for each.
7. ASHA should select regional chairmen for comprehensive planning in each of the nine Federal districts. The regional chairmen should appoint coordinators of planning for each of the states in their federal district. These planning groups, in cooperation with the professionals in speech pathology and audiology, should develop plans of action in order to meet the needs of all communicatively handicapped individuals by 1975.

REPORT OF SUBCOMMITTEE II ON OPTIMAL USAGE OF PROFESSIONAL MANPOWER IN AUDIOLOGY

Discussion Leader: William E. Castle
Resource Person: John J. O'Neill

It seemed to be the general consensus of the Committee that the role of the Audiologist must be changed in order to meet manpower needs of the present and of the future. The practice of Audiology as we know it today is particularly time consuming. Possibly the use of supportive personnel and/or automated hearing test techniques approaches might be an efficient and reliable way to increase the practice of audiometric assessment. The Committee agreed that almost all audiometric techniques could be administered by fully trained subprofessional personnel, as long as there was active supervision by an audiologist; the latter, of course, would be legally, morally and professionally responsible for all phases of hearing testing. If supportive personnel were widely used in audiological clinics the primary role of the audiologist would be that of supervisor, counselor and director.

We recommended that the proliferation of training programs beyond the presently existing number be discouraged in principle and that actions be considered by appropriate bodies within the profession which would support and encourage efficient utilization of professional manpower engaged in training students in audiology.

There is a stated need for an increase in the number of individuals who can provide audiological services and such a stated need requires that consideration be given to the use of supportive personnel and the redefinition of the present responsibilities and functions of the audiologist. If the audiologist is to provide optimal services in conjunction with supportive personnel there will need to be a change in the functions and roles of the audiologist.

We therefore recommend that when supportive personnel are utilized in audiology and speech pathology, the audiologist should assume the following legal and professional responsibilities:

Legal responsibility

a. Obtaining personnel information.

b. Determination of types of tests that are to be administered.

c. Evaluation of the results of tests.

d. Interpretation of all findings obtained during the entire audiological work-up.

e. Counselling of clients.

f. Management and over-seeing of follow-up activities.

Professional Responsibility

a. Supervision and direction of non-professional personnel involved in audiological activities. Such supervision and direction should follow the policies developed by the Professional Services Board.

b. Assignment of management responsibilities.

c. Selection and training of supportive personnel.

Since geographical location of service facilities and trained personnel may lead to problems in the maximum utilization of such personnel, consideration should be given to the utilization of regional services and regional service units to provide additional audiological services.

Identification audiometry is considered separately from clinical audiometry. The objectives of the procedure are different. Identification audiometry implies follow-up audiometric testing by more competent testers when necessary. Therefore supportive personnel should be used extensively in identification audiometry and

and perform this task under direction of an audiologist, thereby permitting the audiologist to attend to matters of training, audiometric follow-up and overall management of the identification audiometric program.

Almost all audiological procedures which yield test scores can be performed by supportive personnel, and the audiologist, if released from these activities, could have additional time for counselling clients and providing additional services in depth; it is recommended that supportive personnel should be used to administer all audiometric tests for which they have been adequately trained. The foregoing presumes that these activities are conducted under the supervision of an audiologist and that the audiologist is immediately available to take over the testing of difficult clients. It also implies that the audiologist remains responsible for ordering the tests that will be administered by the supportive personnel and that he assumes legal, ethical, and moral responsibility for all work done by the supportive personnel.

Since the use of supportive personnel in audiology should not preclude the individual with little or no formal education, and quality performance is not necessarily equated to educational equivalence, the selection of supportive personnel should not be based on educational level, per se.

The increasing numbers of supportive personnel anticipated in audiology programs will require some recognition of their status. Thus, (1) ASHA should take steps to establish a membership category for such personnel, and (2) state associations should be encouraged to consider the desirability of maximum participation in their organizations by supportive personnel.

We recommend that specific audiologic techniques be taught in an in-service in-house training program.

This recommendation implies that no specific curriculum be established such as Associate Arts or Bachelor's degree programs. The American Speech and Hearing

Association should endorse the establishment of a more general health and/or educational aide training program at the Associate Arts degree level, from which a man-power pool for audiology supportive personnel can be drawn.

Since the need for supportive personnel includes both professionals and subprofessionals, and since the audiologist should be utilized in a supervisory capacity for such personnel, we recommend that existing training programs should be extended to include the development of supervisory personnel.

The optimal usage of professional manpower in audiology includes supervision, direction and management of supportive personnel who are performing assigned tasks in evaluating the intactness of human audition. Therefore, the Professional Services Board should formulate a policy statement that defines the terms, "supervision" and "direction" as they apply to the professions of audiology, and surrent supervisory practices within audiology should be examined and critically reviewed by the Professional Services Board.

The ASHA Committee on Government Regulation is currently involved in suggesting a model bill which could lead to statuatory licensure of audiologists, and which might consider the managerial role of the audiologist.

REPORT ON SUBCOMMITTEE III ON THE USE OF SUPPORTIVE PERSONNEL IN SPEECH PATHOLOGY AND AUDIOLOGY

Discussion Leader: Jack Matthews
Resource Person: John P. Moncur

This subcommittee attempted, throughout its discussions, to develop and exchange ideas against the backdrop of information that has been made available through the formal published reports on the topic of supportive personnel, formal reports to this conference, and also the informal reports of several of its members who have had and/or are having experiences at this time in the training and utilization of persons at sub-professional levels.

As a result of these deliberations, this subcommittee generated the following recommendations:

1. Rehabilitative provisions for children with speech, hearing and language disorders should be planned and administered so that speech and hearing problems may be prevented or corrected as soon as possible.
2. Study should be made of the experiences of other professions for suggestions and guidelines.
3. The profession of speech pathology and audiology should devise new ways of recognizing and determining levels of clinical competency as related specifically to the assignment of supportive personnel who will serve persons handicapped by disorders of communication.
4. The membership of the American Speech and Hearing Association and the state associations should assume the responsibility for informing local authorities and state and Federal legislators of the problem of manpower shortage and the need for legislation for its alleviation.
5. Individual members and state associations should be urged to seek active involvement in local, state, and regional planning for programs of

Health, Education, and Welfare.

6. A task analysis should be made of broadly based patient services for speech, hearing, and language disorder from infancy to old age.
7. The American Speech and Hearing Association should assume responsibility for setting standards for the selection, training and supervision or direction of supportive personnel; the American Speech and Hearing Association should establish designations of levels of competency for supportive personnel, and members of the American Speech and Hearing Association holding the Certificate of Clinical Competence should be assigned responsibility for direction and supervision of supportive personnel in all of the work settings in which they will be employed.
8. One possible format for designating levels of training, degrees of certificates, names, work assignments and general education and training requirements, and the mechanisms for horizontal and vertical mobility for each level is given below:

Levels	Education Designation	Clinical Designation	Descriptions of Assignments	Description of Training Setting
IV	PhD/MA	CCC	Supervise/ Direct/Train	University
III	(AB)	C. Assoc.	Clinical Work	College or Univ.
II	*(AA)	C. Helper	Restricted Clinical Work	College or Jr. Coll.
I	None	Aide	Specified Clinical Assign	On-the-job

9. Top priority should be given to the work of the American Speech and Hearing Association Committee on Supportive Personnel.

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*Associate Arts degree

REPORT OF SUBCOMMITTEE IV ON RECRUITMENT INTO THE FIELD

Discussion Leader:	George D. Davis
Resource Persons:	Richard M. Flower William C. Healey R. Vernon Stroud

Recruitment efforts directed toward manpower needs in the profession have been actively pursued in recent years by both the American Speech and Hearing Association and the National Association of Speech and Hearing Agencies (NAHSA).

A review of the efforts of these two organizations indicates that ASHA has directed its attention towards the recruitment of individuals into the profession, with major emphasis being placed on recruitment efforts at the state and local levels. NAHSA has prepared various audiovisual materials for mass media consumption; these are already being widely shown, primarily through the medium of television.

Following a discussion of these activities, however, it became apparent to the Group that the further activities of these organizations should continue to be coordinated. Thus, the following recommendation was made:

> The Executive Board of the ASHA should be requested to refer the issue of policy and procedure of the Joint Advisory Committee on Recruitment to the joint ASHA-NAHSA Committee on Liaison for study and recommendations.

Another topic of interest to the Group was a discussion of the general need for more manpower in the profession. Although the statistics discussed elsewhere at the Conference highlighted the fact that we seem to be in considerable need of more manpower, some reservations were expressed in the Group as to whether the enormous figures projected into the future were realistic. It was felt that further study of professional roles and responsibilities may possibly lead to ways in which present and future manpower may be utilized effectively to meet the service requirements projected for the future.

Also considered was whether present training programs can accommodate effectively increasing numbers of entering students, both now and in the immediate future. There was considerable feeling that private, state and Federal support to training programs was insufficient to meet present demands for physical facilities, personnel and individual student stipends. Training programs might be able to utilize Federal support more efficiently and realistically if they received block grants, rather than funding directed solely to support of students. In recognition of the facts that little information is available regarding specific needs which exist in training programs throughout the country, the following recommendation is made:

> The Executive Board of ASHA should take necessary steps toward institution of a study of current graduate educational programs in speech pathology and audiology to determine (1) the range of undergraduate curricula, (2) factors that have encouraged students to consider graduate study, (3) the number and qualifications of all applicants for these programs, (4) reasons for refusal or withdrawal of applicants, (5) estimates of maximum enrollment that can be accommodated with existing staff and facilities, (6) areas of need for extending opportunities for graduate education, (7) areas of need for changes in patterns of financial support, and (8) other issues that may be relevant.

Specific methodology and principles to be employed in future recruitment efforts were considered by the Group. These factors may be summarized as follows:

1. One group holding maximum potential for recruitment into the field is that of the college and university sophomore class. Other groups of special interest should be at the college BA level and the senior class in high school.
2. Considerable emphasis was placed on the need to attract males into the profession. Emphasis must be placed on changing the image of the profession from one in which a role is projected of females engaged in teaching children to one encompassing an image which is more attractive to males. This attention is of practical importance because of the large attrition rate of females from the profession due to pregnancy and family rearing.
3. It was felt that special recruitment efforts, such as have been carried on by Northwestern and Purdue Universities, can be planned by the training institutions. These efforts can center around summer demonstration programs, including both clinical and research activities.
4. Another source of assistance should be directed toward the student who is actively engaged in training for the profession. The Subcommittee made the following recommendation in this context: The ASHA Executive Board should instruct the Advisory Committee on Recruitment to develop a plan to present the profession's manpower needs to students, and to organize recruitment programs conducted by students in coordination with training programs.
5. The Group recognized the tremendous need for the recruitment of individuals into the profession who represent minority groups. In recognition of the active posture we should assume in this area,

the following recommendation is made: The ASHA Advisory Committee on Recruitment and the Executive Board should diligently pursue all possible means of recruiting minority groups.

Considerable time was spent in discussing the general needs in the area of supportive personnel. Although it was recognized that the use of supportive personnel may help to alleviate the shortage of manpower in the future, there was considerable concern over the fact that supportive personnel, and the training of such individuals, were matters in need of much further study. As a result, the following two recommendations are made:

1. The Executive Board of the ASHA should recommend to the Advisory Committee on Recruitment that it give consideration to the future development of a recruitment program specifically for supportive personnel.
2. Since the precise role of supportive personnel in speech pathology/audiology has not and may not be formally agreed upon by the American Speech and Hearing Association, and since educational and training programs for supportive personnel have not yet been generally established and since employment opportunities for supportive personnel do not exist widely or uniformly, we recommend to the Advisory Committee on Recruitment that it not develop immediate plans for such recruitment.

REPORT OF SUBCOMMITTEE V ON RESEARCH NEEDS AND RECOMMENDATIONS ON MANPOWER IN SPEECH PATHOLOGY AND AUDIOLOGY

Discussion Leader: James Jerger
Resource Persons: Edgar R. Garrett
Audrey L. Holland

This subcommittee first considered the several options open to the profession in meeting its critical manpower needs. We listed the following possibilities:

1) The use of supportive personnel
2) The use of programmed instruction
3) The more effective utilization of automation
4) The prevention of speech and hearing disorders before they occur
5) The restructuring of the framework in which services are rendered
6) The restructuring of the framework in which individual clinicians carry out service procedures.
7) The restructuring of professional training in speech pathology and audiology.

We see a need for both immediate and long-range research programs to meet the manpower utilization problem.

We urgently recommend that the highest priority be given to the immediate goal of restructuring the framework in which speech and hearing services are rendered. We recommend the application of systems analysis to the service function of the profession. We believe that there is an urgent research need for a systems analysis approach to the way in which services are rendered and a task analysis approach to the activities of professional personnel. We believe that the meaningful utilization of supportive personnel must necessarily be based on a careful task analysis of the actual activities carried out in the rendering of services.

We believe that systems analysis research into the framework in which services are rendered will give us much-needed answers to the following questions:

1) How can we offer services more efficiently within the existing frameworks of clinical facilities?
2) How can we utilize both non-professional and para-professional personnel more effectively?
3) What new structures need to be developed in order to bring services to those not currently being served because of geographic and logistic problems?

The second immediate goal is research into the development and creative use of innovative educational technology, such as programmed instruction, automation, computer assisted instruction, and other behavioral modification techniques.

The committee believes that this avenue represents a potentially more fruitful solution to our critical manpower problem than the use of sub-professionally trained personnel.

The third immediate research goal is the investigation of innovative approaches to the preservice and in-service training of professional personnel. Such research should have three goals:

1. Rendering the training program more efficient; that is turning out the same product in less academic time.
2. Making the professional person more effective in his clinical activities so that he can spend less time with each case.
3. Exploring methods for utilizing undergraduate students in internship programs.

In addition to these immediate research goals, our committee sees the need for certain long-range research concerns.

1. First, we heartily endorse the need for research into methods for the prevention of speech, hearing, and language handicaps. We visualize in this area both medical research into the prevention of organic disorders and the use of innovative behavioral techniques for the prevention of functional and/or learning disorders.
2. Second, our committee recommends that future research studies into the efficacy of supportive personnel as they are currently conceived, should take into account research on task analysis and the concept of efficiency.
3. Finally, we recommend that the final report of the manpower study reflect the breakdown of manpower utilization along the critical dimensions of geographic distribution, urban vs. rural, and the types of speech, hearing, and language problem being served.

APPENDIX A

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FORM I (OTS)

COVER SHEET
FOR
PROGRAMS VISITED

Card 1

COL. 1 - 2 ________

COL. 3
1 ☐ COMMUNITY SPEECH AND HEARING CENTER
2 ☐ NON-UNIVERSITY HOSPITAL OR HEALTH FACILITY (e.g., medical or rehabilitation centers)
3 ☐ UNIVERSITY HOSPITAL, MEDICAL CENTER, MEDICAL COLLEGE OR OTHER HEALTH FACILITY (e.g., Dental School)
4 ☐ UNIVERSITY OR COLLEGE PROGRAM (EXCLUDING UNIVERSITY HOSPITALS, MEDICAL CENTERS, OR MEDICAL COLLEGES)
5 ☐ ELEMENTARY AND/OR SECONDARY SCHOOL (IF SETTING IS SET UP FOR A SPECIAL POPULATION OF CHILDREN, SUCH AS A SCHOOL FOR THE DEAF, PLEASE SPECIFY) ________
6 ☐ OTHER (SPECIFY) ________

COL. 4
1 ☐ LARGE
2 ☐ MEDIUM
3 ☐ SMALL

COL. 5
1 ☐ NEW ENGLAND
2 ☐ EAST
3 ☐ CENTRAL ATLANTIC
4 ☐ SOUTHEAST
5 ☐ GREAT LAKES
6 ☐ NORTH CENTRAL
7 ☐ SOUTH AND SOUTHWEST
8 ☐ FAR WEST
9 ☐ WEST COAST

FORM II (OTS)

CHECKLIST
FOR
IDENTIFYING PERSONAL DATA

COL. 6 - 7 Name____ __________

COL. 8 - 9 Position Title________________________________ __________

INSTRUCTIONS: For each of the following items, please CHECK (X) ONLY THAT ONE response which is most appropriate to you, unless otherwise indicated.

COL. 10 A. SEX:

1 ☐ Male
2 ☐ Female

COL. 11 B. AGE:

1 ☐ 20 or Less
2 ☐ 21 - 25
3 ☐ 26 - 30
4 ☐ 31 - 35
5 ☐ 36 - 40
6 ☐ 41 - 45
7 ☐ 46 - 50
8 ☐ 51 - 55
9 ☐ 56 - 65
0 ☐ over 65

COL. 12 C. MARITAL STATUS:

1 ☐ Single
2 ☐ Married
3 ☐ Widowed
4 ☐ Divorced

COL. 13 D. EMPLOYMENT STATUS FOR THIS PARTICULAR WORK ENVIRONMENT:

1 ☐ Full-time employee
2 ☐ Half-time employee
3 ☐ Limited part time employee (e.g., hourly)
4 ☐ Full-time or part-time Graduate student

E. EDUCATION AND TRAINING:

COL. 14 1. Highest degree earned:

1 ☐ None
2 ☐ Associate in Arts Degree or Nurse's Degree
3 ☐ Bachelor's
4 ☐ Master's (or equivalent)
5 ☐ Doctoral

COL. 15

2. If trained in Speech Pathology-Audiology, specify Major emphasis of your education and training (CHECK ONE ONLY):

1 ☐ Speech Pathology

2 ☐ Audiology

3 ☐ Language Pathology

4 ☐ Equal emphasis on Speech Pathology and Audiology

5 ☐ Equal emphasis on Speech Pathology and Language Pathology

6 ☐ Equal emphasis on Audiology and Language Pathology

7 ☐ Equal emphasis on all three

8 ☐ Other (Specify) ______________________________

____

____

9 ☐ Not trained with a major emphasis in Speech Pathology or Audiology

COL. 16

3. If you are not trained primarily in Speech Pathology-Audiology, please specify the field in which you are trained primarily:

____

____

____

F. WORK EXPERIENCE BACKGROUND FOR SPEECH AND HEARING SERVICES (DO NOT INCLUDE PRACTICUM EXPERIENCE):

COL. 17

NOTE: If none or not applicable, CHECK HERE: ☐

COL. 18

1. Number of Years:

1 ☐	Less than 1	5 ☐	11 - 15
2 ☐	1 - 2	6 ☐	16 - 20
3 ☐	3 - 5	7 ☐	21 - 25
4 ☐	6 - 10	8 ☐	26 plus

COL. 19

2. How would you describe the continuity of these years of experience?

☐ Continuous

☐ Intermittent, but with minor breaks

☐ Intermittent, with major breaks

(SPECIFY) ______________________________

____

____

3. Settings: Check YES for EACH of the following settings in which you have had some work experience, including practicum experience. Check NO for EACH of the settings in which you have had no work experience. DO NOT leave any item UNMARKED.

	YES	NO	
COL. 20	☐	☐	1. Community Speech and Hearing Center
COL. 21	☐	☐	2. Non-University Hospital or Health Facility (e.g., medical or rehabilitation center)
COL. 22	☐	☐	3. University Hospital, Medical Center, Medical College, or other Health Facility (e.g., Dental School)
COL. 23	☐	☐	4. University or College (excluding university hospitals, medical center, or medical college)
COL. 24	☐	☐	5. Elementary or Secondary School (If setting is set up for a special population of children, such as a school for the deaf, a school for the retarded, please SPECIFY) ______________________________ ______________________________ ______________________________
COL. 25	☐	☐	6. Other (Specify) ______________________________ ______________________________ ______________________________

4. Certification:

COL. 26 a. ASHA certification possessed by you (CHECK ONE ONLY):

1 ☐ Certificate of Clinical Competence in Speech Pathology

2 ☐ Certificate of Clinical Competence in Audiology

3 ☐ Certificate of Clinical Competence in both Speech Pathology and Audiology

COL. 27 b. ASHA certification not possessed by you, but for which your application has been accepted (CHECK ONE ONLY):

1 ☐ Certificate of Clinical Competence in Speech Pathology

2 ☐ Certificate of Clinical Competence in Audiology

3 ☐ Certificate of Clinical Competence in both Speech Pathology and Audiology

COL. 28 c. Other professional certificates possessed by you (CHECK ALL THAT APPLY):

1 ☐ State certificate for speech correction

2 ☐ State certificate for teaching hard of hearing children

3 ☐ Certificate for teaching the deaf from the Conference of Executives of American Schools for the Deaf

4 ☐ Others (Specify) ______________________________

____

____

COL. 29 d. Other professional certificates not possessed by you, but for which your application has been accepted (CHECK ALL THAT APPLY):

1 ☐ State certificate for speech correction

2 ☐ State certificate for teaching hard of hearing children

3 ☐ Certificate for teaching the deaf from the Conference of Executives of American Schools for the Deaf

4 ☐ Others (Specify) ______________________________

____

____

FORM III (OTS)

CHECKLIST
OF
SPECIFIC DUTIES AND RESPONSIBILITIES
REGARDING SERVICES

COL. 6 - 7 Name______________________________ ________

INSTRUCTIONS: Check YES ☐ OR NO ☐ for EVERY item. Do NOT leave any item UNMARKED. Check YES for only those duties you perform in the position you are now filling in this setting. Include even those duties performed only occasionally.

PART I - RESPONSIBILITIES FOR RECORDS OR REPORTS

	YES	NO	
COL. 30	☐	☐	1. Taking case histories on patients
COL. 31	☐	☐	2. Preparing reports to other agencies or individuals about patients.
COL. 32	☐	☐	3. Daily or weekly logs on patients
COL. 33	☐	☐	4. Lesson plans
COL. 34	☐	☐	5. Other (Specify)______________________________ ______________________________

PART II - DUTIES REGARDING SPEECH AND LANGUAGE DIAGNOSES

	YES	NO	
COL. 35	☐	☐	1. Screening for speech problems
COL. 36	☐	☐	2. Screening for language problems
COL. 37	☐	☐	3. Examining oral mechanism
COL. 38	☐	☐	4. Administrating complete tests for articulation problems
COL. 39	☐	☐	5. Testing for voice problems
COL. 40	☐	☐	6. Testing for aphasia and related behaviors

	YES	NO	
COL. 41	☐	☐	7. Testing for language development
COL. 42	☐	☐	8. Testing for stuttering behavior
COL. 43	☐	☐	9. Evaluating speech problems of persons with cleft palate or lip
COL. 44	☐	☐	10. Evaluating speech problems of persons with cerebral palsy
COL. 45	☐	☐	11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis or related syndromes
COL. 46	☐	☐	12. Evaluating speech problems of the mentally retarded
COL. 47	☐	☐	13. Evaluating speech problems of individuals with hearing handicaps
COL. 48	☐	☐	14. Evaluating speech problems of individuals with emotional disorders
COL. 49	☐	☐	15. Evaluating speech problems of individuals with special learning disabilities
COL. 50	☐	☐	16. Interpreting speech tests performed by supportive personnel or persons of lesser experience
COL. 51	☐	☐	17. Preparation of equipment, apparatus, or materials for any of the items 1-10
COL. 52	☐	☐	18. Others (Specify) ____________________

PART III - DUTIES FOR SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

	YES	NO	
COL. 53	☐	☐	1. Speech correction for functional articulation problems
COL. 54	☐	☐	2. Therapy for stutterers
COL. 55	☐	☐	3. Speech correction for dysphonias (malfunctions of voice --harshness, hoarseness, breathiness)
COL. 56	☐	☐	4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech

	YES	NO	
COL. 57	☐	☐	5. Esophageal speech lessons for laryngectomees
COL. 58	☐	☐	6. Speech correction for persons with cleft palate
COL. 59	☐	☐	7. Speech correction for persons with hyper- or hyponasality
COL. 60	☐	☐	8. Speech correction for persons with cerebral palsy
COL. 61	☐	☐	9. Speech or language correction or instruction for persons with aphasia
COL. 62	☐	☐	10. Speech or language correction or instruction for persons with special learning disabilities
COL. 63	☐	☐	11. Speech or language correction or instruction for persons with mental retardation
COL. 64	☐	☐	12. Speech or language correction or instruction for persons with hearing handicaps
COL. 65	☐	☐	13. Speech or language correction or instruction for persons with emotional disorders
COL. 66	☐	☐	14. Speech or language correction or instruction for dialects or bilingual problems
COL. 67	☐	☐	15. Speech improvement lessons
COL. 68	☐	☐	16. Tongue thrust or abnormal swallowing correction procedures
COL. 69	☐	☐	17. Language development for culturally deprived
COL. 70	☐	☐	18. Preparation of equipment, apparatus, or materials for any of the items 1-17
COL. 71	☐	☐	19. Others (Specify) ____ ____

PART IV - DUTIES REGARDING HEARING DIAGNOSES

	YES	NO	
COL. 72	☐	☐	1. Audiometric screening
COL. 73	☐	☐	2. Pure tone air conduction tests
COL. 74	☐	☐	3. Pure tone bone conduction tests
COL. 75	☐	☐	4. Measurement of speech reception thresholds
COL. 76	☐	☐	5. Measurement of speech discrimination
COL. 77	☐	☐	6. Tolerance tests
Card 2			
COL. 10	☐	☐	7. Tests for functional (non-organic) hearing loss; psychogenic
COL. 11	☐	☐	8. Galvanic skin (electro-dermal) response audiometry
COL. 12	☐	☐	9. Békésy automatic audiometry
COL. 13	☐	☐	10. Loudness balance tests
COL. 14	☐	☐	11. SISI tests
COL. 15	☐	☐	12. Tone decay tests
COL. 16	☐	☐	13. Impedance measurements
COL. 17	☐	☐	14. Electronystagmography tests
COL. 18	☐	☐	15. Electroencepholography tests
COL. 19	☐	☐	16. Screening of newborn
COL. 20	☐	☐	17. Audiometric tests for children
COL. 21	☐	☐	18. Interpretation of any of items 1-15
COL. 22	☐	☐	19. Preparation of equipment, apparatus, or materials for any of items 1-15
COL. 23	☐	☐	20. Others (Specify) ______________________

____

____

PART V - DUTIES FOR HEARING HABILITATION AND REHABILITATION

	YES	NO	
COL. 24	☐	☐	1. Evaluating hearing aids for their usefulness to patients
COL. 25	☐	☐	2. Selection of hearing aid
COL. 26	☐	☐	3. Hearing aid orientation
COL. 27	☐	☐	4. Hearing aid rechecks
COL. 28	☐	☐	5. Auditory training
COL. 29	☐	☐	6. Speechreading (Lipreading) lessons
COL. 30	☐	☐	7. Clinical speech training or speech conservation for the hearing handicapped
COL. 31	☐	☐	8. Tutoring or education for hearing handicapped
COL. 32	☐	☐	9. Others (Specify) ________________________________

PART VI - DUTIES REGARDING COUNSELING OR INDOCTRINATING

	YES	NO	
COL. 33	☐	☐	1. Counseling patients
COL. 34	☐	☐	2. Counseling parents or family
COL. 35	☐	☐	3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)
COL. 36	☐	☐	4. Counseling of employers of the handicapped
COL. 37	☐	☐	5. Others (Specify) ________________________________

PART VII - MISCELLANEOUS DUTIES OR RESPONSIBILITIES

	YES	NO	
COL. 38	☐	☐	1. General Administrative duties
COL. 39	☐	☐	2. Supervision
COL. 40	☐	☐	3. Teaching or Training of graduate students or other personnel
COL. 41	☐	☐	4. Research
COL. 42	☐	☐	5. Outside professional meetings, speaking engagements, etc.
COL. 43	☐	☐	6. Preparation of materials for programmed learning
COL. 44	☐	☐	7. Scheduling
COL. 45	☐	☐	8. Other (Specify) ____________________

____

____

FORM IV (OTS)

RELATIVE TIME SPENT ON GENERAL CATEGORIES OF DUTIES AND RESPONSIBILITIES

COL. 6 - 7 Name______________________________ __________

INSTRUCTIONS:

Step 1. Read the following list of general categories of duties and responsibilities.

Step 2. On the left hand side of the page, circle the numbers of those FOUR general categories of duties and responsibilities which occupy a clear majority of your work time.

Step 3. After that category which occupies the GREATEST amount of your work time, CHECK THE BOX NUMBERED 1; after that category which occupies the NEXT GREATEST amount of your work time, CHECK THE BOX NUMBERED 2; and so on, until you have checked FOUR categories. If fewer than FOUR categories are appropriate to you, circle and rank only as many as are appropriate for you. DO NOT RANK MORE THAN FOUR CATEGORIES AND DO NOT USE THE SAME RANKING NUMBER MORE THAN ONCE.

		1	2	3	4
COL. 46	1. General Administration	☐	☐	☐	☐
COL. 47	2. Supervision of other staff	☐	☐	☐	☐
COL. 48	3. Preparation of Records or Reports	☐	☐	☐	☐
COL. 49	4. Performing Speech and Language Diagnoses	☐	☐	☐	☐
COL. 50	5. Performing Speech and Language Habilitation and Rehabilitation	☐	☐	☐	☐
COL. 51	6. Performing Tasks for Hearing Diagnoses	☐	☐	☐	☐
COL. 52	7. Performing Tasks for Hearing Habilitation and Rehabilitation	☐	☐	☐	☐
COL. 53	8. Counseling or Indoctrinating	☐	☐	☐	☐
COL. 54	9. Teaching or Training	☐	☐	☐	☐
COL. 55	10. Research	☐	☐	☐	☐
COL. 56	11. Outside Professional Meetings, Speaking Engagements, etc.	☐	☐	☐	☐
COL. 57	12. Other (SPECIFY) ______________________	☐	☐	☐	☐

FORM V (OTS)

CHECKLIST OF ATTITUDES
REGARDING
SUPPORTIVE PERSONNEL
FOR SPEECH AND HEARING SERVICES

COL. 6 - 7 Name____ __________

INSTRUCTIONS: On the pages which follow are listed a number of specific duties and responsibilities which are now assumed by professionally trained speech pathologists and audiologists. As a professional speech pathologist and/or audiologist, you are being asked to indicate your opinion about which, if any, of these duties or responsibilities can be assumed by one or more of three levels of supportive personnel under appropriate supervision.

For purposes of our study, the three levels of supportive personnel are defined as follows:

LEVEL 3: No formal college training in speech pathology or audiology (may include volunteers, aides, hearing technicians, nurses, etc.)

LEVEL 2: College training for speech pathology and audiology to less than a bachelor's level.

LEVEL 1: A master's candidate with major emphasis in speech pathology and audiology or a holder of a bachelor's degree with major emphasis in speech pathology and audiology.

For EACH specific duty or responsibility listed, PLEASE do the following:

1) If you believe that persons at all levels can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: LEVEL 3.

2) If you believe that persons at either LEVEL 1 or LEVEL 2 can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: LEVEL 2.

3) If you believe that only persons at LEVEL 1 can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: LEVEL 1.

4) If you believe that NO LEVEL of SUPPORTIVE PERSONNEL can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: NONE.

5) If you believe that you are not qualified to express an attitude about that duty or responsibility, CHECK THE BOX UNDER THE LABEL: DON'T KNOW

For EACH item, CHECK ONLY ONE BOX. DO NOT LEAVE ANY ITEM UNMARKED.

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

PART I - RESPONSIBILITIES FOR RECORDS OR REPORTS

Card 3		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 46	1. Taking case histories on patients	☐	☐	☐	☐	☐
COL. 47	2. Preparing reports to other agencies or individuals about patients	☐	☐	☐	☐	☐
COL. 48	3. Daily or weekly logs on patients	☐	☐	☐	☐	☐
COL. 49	4. Lesson plans	☐	☐	☐	☐	☐
COL. 50	5. Other (Specify) ______________	☐	☐	☐	☐	☐

PART II - DUTIES REGARDING SPEECH AND LANGUAGE DIAGNOSES

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 51	1. Screening for speech problems ..	☐	☐	☐	☐	☐
COL. 52	2. Screening for language problems.	☐	☐	☐	☐	☐
COL. 53	3. Examining oral mechanism	☐	☐	☐	☐	☐
COL. 54	4. Administrating complete tests for articulation problems	☐	☐	☐	☐	☐
COL. 55	5. Testing for voice problems	☐	☐	☐	☐	☐
COL. 56	6. Testing for aphasia and related behaviors	☐	☐	☐	☐	☐
COL. 57	7. Testing for language development	☐	☐	☐	☐	☐
COL. 58	8. Testing for stuttering behavior	☐	☐	☐	☐	☐
COL. 59	9. Evaluating speech problems of persons with cleft palate or lip	☐	☐	☐	☐	☐
COL. 60	10. Evaluating speech problems of persons with cerebral palsy	☐	☐	☐	☐	☐

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 61	11. Evaluating speech problems of individuals with Parkinson's disease,multiple sclerosis,or related syndromes......................	☐	☐	☐	☐	☐
COL. 62	12. Evaluating speech problems of the mentally retarded	☐	☐	☐	☐	☐
COL. 63	13. Evaluating speech problems of individuals with hearing handicaps.........................	☐	☐	☐	☐	☐
COL. 64	14. Evaluating speech problems of individuals with emotional disorders	☐	☐	☐	☐	☐
COL. 65	15. Evaluating speech problems of individuals with special learning disabilities	☐	☐	☐	☐	☐
COL. 66	16. Interpreting speech tests performed by supportive personnel or persons of lesser experience.	☐	☐	☐	☐	☐
COL. 67	17. Preparation of equipment,apparatus,or materials for any of the items 1-10	☐	☐	☐	☐	☐
COL. 68	18. Others (Specify) ______________ ______________________	☐	☐	☐	☐	☐

PART III - DUTIES FOR SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 69	1. Speech correction for functional articulation problems	☐	☐	☐	☐	☐
COL. 70	2. Therapy for stutterers	☐	☐	☐	☐	☐
COL. 71	3. Speech correction for dysphonias (malfunctions of voice--harshness, hoarseness, breathiness)	☐	☐	☐	☐	☐

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 72	4. Pre-operative orientation for laryngectomees,or other persons whose surgery might affect speech	☐	☐	☐	☐	☐
COL. 73	5. Esophageal speech lessons for laryngectomees	☐	☐	☐	☐	☐
COL. 74	6. Speech correction for persons with cleft palate	☐	☐	☐	☐	☐
COL. 75	7. Speech correction for persons with hyper- or hypo-nasality	☐	☐	☐	☐	☐
Card 4 COL. 10	8. Speech correction for persons with cerebral palsy	☐	☐	☐	☐	☐
COL. 11	9. Speech or language correction or instruction for persons with aphasia	☐	☐	☐	☐	☐
COL. 12	10. Speech or language correction or instruction for persons with special learning disabilities	☐	☐	☐	☐	☐
COL. 13	11. Speech or language correction or instruction for persons with mental retardation	☐	☐	☐	☐	☐
COL. 14	12. Speech or language correction or instruction for persons with hearing handicaps	☐	☐	☐	☐	☐
COL. 15	13. Speech or language correction or instruction for persons with emotional disorders	☐	☐	☐	☐	☐
COL. 16	14. Speech or language correction or instruction for dialects or bilingual problems	☐	☐	☐	☐	☐
COL. 17	15. Speech improvement lessons	☐	☐	☐	☐	☐
COL. 18	16. Tongue thrust or abnormal swallowing correction procedures	☐	☐	☐	☐	☐
COL. 19	17. Language development for culturally deprived	☐	☐	☐	☐	☐

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 20	18. Preparation of equipment, apparatus, or materials for any of the items 1-17	☐	☐	☐	☐	☐
COL. 21	19. Others (Specify) ______________ ______________	☐	☐	☐	☐	☐

PART IV - DUTIES REGARDING HEARING DIAGNOSES

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 22	1. Audiometric screening	☐	☐	☐	☐	☐
COL. 23	2. Pure tone air conduction tests	☐	☐	☐	☐	☐
COL. 24	3. Pure tone bone conduction tests	☐	☐	☐	☐	☐
COL. 25	4. Measurement of speech reception thresholds	☐	☐	☐	☐	☐
COL. 26	5. Measurement of speech discrimination	☐	☐	☐	☐	☐
COL. 27	6. Tolerance tests	☐	☐	☐	☐	☐
COL. 28	7. Tests for functional (non-organic) hearing loss;psychogenic	☐	☐	☐	☐	☐
COL. 29	8. Galvanic skin (electro-dermal) response audiometry	☐	☐	☐	☐	☐
COL. 30	9. Békésy automatic audiometry	☐	☐	☐	☐	☐
COL. 31	10. Loudness balance tests	☐	☐	☐	☐	☐
COL. 32	11. SISI tests	☐	☐	☐	☐	☐
COL. 33	12. Tone decay tests	☐	☐	☐	☐	☐
COL. 34	13. Impedance measurements	☐	☐	☐	☐	☐
COL. 35	14. Electronystagmography tests	☐	☐	☐	☐	☐
COL. 36	15. Electroencephology tests	☐	☐	☐	☐	☐

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 37	16. Screening of newborn	☐	☐	☐	☐	☐
COL. 38	17. Audiometric tests for children ..	☐	☐	☐	☐	☐
COL. 39	18. Interpretation of any of items 1-15	☐	☐	☐	☐	☐
COL. 40	19. Preparation of equipment,apparatus,or materials for any of items 1-15	☐	☐	☐	☐	☐
COL. 41	20. Others (Specify) ________________ ________________	☐	☐	☐	☐	☐

PART V - DUTIES FOR HEARING HABILITATION AND REHABILITATION

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 42	1. Evaluating hearing aids for their usefulness to patients	☐	☐	☐	☐	☐
COL. 43	2. Selection of hearing aid	☐	☐	☐	☐	☐
COL. 44	3. Hearing aid orientation	☐	☐	☐	☐	☐
COL. 45	4. Hearing aid rechecks	☐	☐	☐	☐	☐
COL. 46	5. Auditory training	☐	☐	☐	☐	☐
COL. 47	6. Speechreading (Lipreading) lessons	☐	☐	☐	☐	☐
COL. 48	7. Clinical speech training or speech conservation for the hearing handicapped	☐	☐	☐	☐	☐
COL. 49	8. Tutoring or education for hearing handicapped	☐	☐	☐	☐	☐
COL. 50	9. Others (Specify) ________________ ________________	☐	☐	☐	☐	☐

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3 - No formal college training in Speech Pathology and Audiology
LEVEL 2 - College Training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1 - Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

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PART VI - DUTIES REGARDING COUNSELING OR INDOCTRINATING

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 51	1. Counseling patients	☐	☐	☐	☐	☐
COL. 52	2. Counseling parents or family	☐	☐	☐	☐	☐
COL. 53	3. Indoctrinating ancillary personnel (e.g.,classroom teachers,nurses, etc.)	☐	☐	☐	☐	☐
COL. 54	4. Counseling of employers of the handicapped	☐	☐	☐	☐	☐
COL. 55	5. Others (Specify) ______________	☐	☐	☐	☐	☐

____

FORM VI (OTS)

INTERVIEW PROFILE

FOR STAFF MEMBERS

COL. 6 - 7 Name______________________________ __________

COL. 8 - 9 Position Title________________________ __________

SECTION I

GENERAL INFORMATION

Card 2

COL. 59 A. Specify your average number of working hours per week: __________

1 ☐ 1-10 3 ☐ 21-30 5 ☐ over 40

2 ☐ 11-20 4 ☐ 31-40

COL. 60 B. Specify the approximate number of hours spent by you in an average work week, in face-to-face contact with persons requiring speech, hearing, or language services: __________

1 ☐ 1-10 3 ☐ 21-30 5 ☐ over 40

2 ☐ 11-20 4 ☐ 31-40

COL. 61 C. Specify the approximate number of persons who receive speech, hearing, or language services directly from you in an average work week: __________

0 ☐ 0 3 ☐ 11-20 6 ☐ 41-50

1 ☐ 1-5 4 ☐ 21-30 7 ☐ 51-70

2 ☐ 6-10 5 ☐ 31-40 8 ☐ 71-90 9 ☐ over 90

D. Are any specific services that you perform supervised by another staff member?

COL. 62 ☐ YES ☐ NO

COL. 63 ☐ EXPLAIN TO WHAT EXTENT:

COL. 64 ☐

SECTION II-A

DUTIES AND RESPONSIBILITIES NOT SPECIFIED ON CHECKLIST

COL. 65   1 ☐ YES   2 ☐ NO   DUTY CATEGORY: ADMINISTRATIVE

Specify what duties or responsibilities involved:

	YES	NO	
COL. 66	☐	☐	1. Meeting with other staff of the program concerning policies, work; serving on committees
COL. 67	☐	☐	2. Scheduling
COL. 68	☐	☐	3. Studying and planning for immediate or projected needs (materials, equipment, space)
COL. 69	☐		4. Others (Specify)
COL. 70	☐		

SECTION II-B

DUTIES AND RESPONSIBILITIES NOT SPECIFIED ON CHECK LIST

Card 3
COL. 10   1 ☐ YES   2 ☐ NO   DUTY CATEGORY: SUPERVISION

(NOTE: Information about number of persons supervised and for what jobs should be determined and indicated on next page)

A. Specify what duties and responsibilities are involved:

	YES	NO	
COL. 11	☐	☐	1. Assigning work to other members of the staff
COL. 12	☐	☐	2. Observing and advising other professionals on the staff
COL. 13	☐	☐	3. Observing and advising students in training
COL. 14	☐	☐	4. Observing and advising aides or volunteers
COL. 15	☐	☐	5. Others (Specify)

Go On To Next Page.

B. Number of persons and their job levels:

1. LEVEL 3 (Supportive) - No formal college training in speech pathology (may include volunteers, aides, hearing technicians, nurses, etc.)

COL. 16

0 ☐ 0
1 ☐ 1-5
2 ☐ 6-10
3 ☐ 11-20
4 ☐ 21-30
5 ☐ 31-40
6 ☐ 41-50
7 ☐ 51-70
8 ☐ 71-90
9 ☐ over 90

2. LEVEL 2 (Supportive) - College training for speech pathology and audiology to less than a bachelor's degree level.

COL. 17

0 ☐ 0
1 ☐ 1-5
2 ☐ 6-10
3 ☐ 11-20
4 ☐ 21-30
5 ☐ 31-40
6 ☐ 41-50
7 ☐ 51-70
8 ☐ 71-90
9 ☐ over 90

3. LEVEL 2 (Supportive) - A master's candidate with major emphasis in speech pathology and audiology or a holder of a bachelor's degree with major emphasis in speech pathology and audiology.

COL. 18

0 ☐ 0
1 ☐ 1-5
2 ☐ 6-10
3 ☐ 11-20
4 ☐ 21-30
5 ☐ 31-40
6 ☐ 41-50
7 ☐ 51-70
8 ☐ 71-90
9 ☐ over 90

4. PROFESSIONAL

COL. 19

0 ☐ 0
1 ☐ 1-5
2 ☐ 6-10
3 ☐ 11-20
4 ☐ 21-30
5 ☐ 31-40
6 ☐ 41-50
7 ☐ 51-70
8 ☐ 71-90
9 ☐ over 90

SECTION II-C

DUTIES AND RESPONSIBILITIES NOT SPECIFIED ON CHECKLIST

COL. 20 1 ☐ YES 2 ☐ NO DUTY CATEGORY: TEACHING AND TRAINING

Specify what duties and responsibilities are involved:

	YES	NO	
COL. 21	☐	☐	1. Persons for this profession (i.e., graduate or undergraduate students)
COL. 22	☐	☐	2. Aides or other non-professionals
COL. 23	☐	☐	3. Persons in other professions (e.g., ENT residents, nurses, teachers)
COL. 24	☐	☐	4. Demonstrating for other professional staff
COL. 25	☐	☐	5. Others (Specify)
COL. 26	☐		

SECTION II-D

DUTIES AND RESPONSIBILITIES NOT SPECIFIED ON CHECKLIST

COL. 27 1 ☐ YES 2 ☐ NO DUTY CATEGORY: OTHERS - GENERAL

(NOTE: THIS PAGE MUST BE USED WITH ALL PERSONS, INCLUDING ALL LEVELS OF SUPPORTIVE PERSONNEL (OR SERVICES)

Specify what duties and responsibilities are involved:

COL. 28 ☐

COL. 29 ☐

COL. 30 ☐

SECTION III

GENERAL ATTITUDES

A. About education and training:

1. Do you feel there are minimum formal education requirements for someone starting in the position that you now fill in this work setting?

COL. 31

0 ☐ NONE

1 ☐ high school graduate

2 ☐ two years of college

3 ☐ college degree with major emphasis in field other than speech pathology-audiology

4 ☐ bachelor's degree with major emphasis in speech pathology-audiology

5 ☐ master's degree in field other than speech pathology-audiology

6 ☐ master's degree in speech pathology-audiology

7 ☐ doctor's degree in field other than speech pathology-audiology

8 ☐ doctor's degree in speech pathology-audiology

9 ☐ Other (Specify)

EXPLAIN (why they are minimal):

ACTUAL AMOUNT OF EDUCATION AND TRAINING FOR SUPPORTIVE PERSONNEL:

LEVEL
1
2
3

2. Do you feel overeducated for any of the duties or responsibilities which you now perform?

COL. 32 ☐ YES ☐ NO

EXPLAIN (Which duties and why you feel overeducated):

3. Do you feel undereducated for any of the duties or responsibilities which you now perform?

COL. 33 ☐ YES ☐ NO

EXPLAIN (which duties and why you feel undereducated):

Suggested solution:

4. Did you have courses in your education and training that you consider most valuable for what you are now doing?

COL. 34 ☐ YES ☐ NO

SPECIFY AND EXPLAIN:

B. In terms of best utilization of your skills and knowledge in this setting, what is your evaluation of each of the following items:

1. The amount of time you have for planning or preparation of activities:

COL. 35

1 ☐ Very inadequate   Comments:

2 ☐ Inadequate

3 ☐ Adequate

2. The amount of time you have for keeping up with trends of the profession:

COL. 36

1 ☐ Very Inadequate   Comments:

2 ☐ Inadequate

3 ☐ Adequate

4 ☐ Not applicable

3. The opportunity you have for conferring with professionals about the persons to whom you offer services:

COL. 37

1 ☐ Very Inadequate   Comments:

2 ☐ Inadequate

3 ☐ Adequate

4 ☐ Not applicable

4. The in-referral and the out-referral procedures of this program:

COL. 38

1 ☐ Very inadequate   Comments:

2 ☐ Inadequate

3 ☐ Adequate

4 ☐ Not applicable

5. The record-keeping procedures:

COL. 39 1 ☐ Very inadequate Comments:
2 ☐ Inadequate
3 ☐ Adequate
4 ☐ Not applicable

6. The scheduling procedures:

COL. 40 1 ☐ Very inadequate Comments:
2 ☐ Inadequate
3 ☐ Adequate
4 ☐ Not applicable

7. The space and equipment layout of the facility:

COL. 41 1 ☐ Very inadequate Comments:
2 ☐ Inadequate
3 ☐ Adequate
4 ☐ Not applicable

8. Others (Specify):

COL. 42 ☐
COL. 43 ☐

C. Opportunity for advancement:

1. Do you feel that you have good opportunities for advancement (upward mobility) in this work environment?

COL. 44

1 ☐ YES EXPLAIN:

2 ☐ NO

3 ☐ Not applicable

2. Are there specific things required for you to do in order to advance on the job?

COL. 45

1 ☐ YES SPECIFY:

2 ☐ NO

3 ☐ Not applicable

APPENDIX B

This questionnaire was sent to all programs offering speech and hearing services to the general public, and to all school systems employing two or more clinicians. The questionnaires were identical for both groups, however, the cover letter was adjusted to the individual differences in the programs. The sample shown here was the one sent to the public school programs.

AMERICAN SPEECH AND HEARING ASSOCIATION
9030 OLD GEORGETOWN ROAD
WASHINGTON, D.C. 20014

OFFICE OF THE EXECUTIVE SECRETARY

Dear Colleague:

This past year the American Speech and Hearing Association was awarded a grant by the Rehabilitation Services Administration for undertaking a study of manpower needs and manpower utilization in speech pathology and audiology. As a part of our study, we wish to survey as many professional services programs in speech pathology and audiology as we have been able to identify.

We have several objectives in mind with this survey: (a) to obtain base information about each services program which we may one day be able to use for preparation of a directory of such programs; (b) to obtain attitudes about the use of supportive personnel for speech and hearing services, and (c) to assess program needs for manpower and other resources.

Enclosed please find a questionnaire which has been sent to you under the assumption that you are in the position to complete it for one of the many speech, hearing, and language services programs in the schools.

We are aware that school districts often undertake speech, hearing, and language services programs on a cooperative basis. However, the address labels which we have used may not always reflect this fact. As a result, if you are a director of an interdistrict cooperative program of speech, hearing, and language services, you may receive more than one of these questionnaires. In that event, please complete only *one* questionnaire in full, basing your responses on the entire interdistrict program. We would appreciate it if you would also return *all* other questionnaires after completing only ITEM C., page 1.

We are aware that this questionnaire is long. However, we have made every effort to make it easy for you to complete, and think it should not be a great time-consumer. We would appreciate your completing it and returning it to us no later than March 11, 1968

Your returning the questionnaire will help insure that information about your program would be included in any forthcoming directory of programs. It will also insure the collection of meaningful data and the success of our project.

Sincerely,

William E. Castle

William E. Castle, Ph. D.
Associate Secretary, ASHA
Project Director

SPACE FOR LABEL
AND CODE NUMBER

SECTION I. IDENTIFYING DATA FOR THE SERVICES PROGRAM

Card 1
COL. 1-5

ITEM A. Name and address of the speech, hearing, and language services program for which you are reporting: (PLEASE CORRECT AND ADD ZIP CODE AS NEEDED)

SPECIAL NOTE FOR PROGRAMS IN ELEMENTARY OR SECONDARY SCHOOLS:

We are aware that school districts often undertake speech, hearing, and language services programs on a cooperative basis. If your responses to this questionnaire are for an *entire* interdistrict *cooperative* program, please so indicate and name *all* the county and/or city school districts involved. If your responses are in regard to a program for a *single* county or city school district, please so indicate and name that school district.

☐ Responses are for a cooperative program ☐ Responses are for a single district

PLEASE PRINT ITEMS B. AND C.

Name of District(s): ______________________________

____

ITEM B. Name of current director of the program:

____
First Middle Initial Last

ITEM C. Name, Title, and position of respondent: ______________________________
First Middle Initial Last

____
Title Position

ITEM D. CHECK the ONE category that BEST describes the setting for your speech, hearing, and language services program (CHECK ONLY ONE)

COL. 6

1 ☐ Community Speech and Hearing Center
2 ☐ Non-University Hospital or Health Facility (e.g., Medical or Rehabilitation Centers)
3 ☐ University Hospital, Medical College or other Health Facility (e.g., Dental School)
4 ☐ University or College program (*excluding* university hospitals, medical centers, or medical colleges)
5 ☐ Elementary or Secondary School (if setting is used for a special population of children, such as a school for the deaf, please SPECIFY) ______________________________

____

6 ☐ Other (Specify) ______________________________

____

ITEM E. CHECK the ONE response which BEST describes which Certificates of Clinical Competence from the American Speech and Hearing Association are held *by the respondent(s)* (CHECK ONE ONLY; if two or more persons serve as respondents, please respond in terms of the group of respondents)

COL. 7

1 ☐ *Both* Speech Pathology *and* Audiology
2 ☐ *Only* Speech Pathology
3 ☐ *Only* Audiology
4 ☐ *Neither* Speech Pathology *nor* Audiology (please specify the field in which you are primarily trained: ______________________________)

Go on to next page

ITEM F. What is the *primary* mission of your speech, hearing, and language services program? (CHECK ONLY ONE)

COL. 8
1 ☐ Services to the public other than through elementary and secondary schools
2 ☐ Services to the public through elementary and secondary schools
3 ☐ Education and training of graduate students in speech pathology and audiology
4 ☐ Education and Training of undergraduate students in speech pathology and audiology
5 ☐ Research
6 ☐ Other (Specify) ____________________

ITEM G. Does your program operate on the basis of an academic year, rather than a calendar year?

COL. 9
1 ☐ YES
2 ☐ NO

ITEM H. What was the approximate percentage of clients, in EACH of the following categories, seen by your services program in the past year (1967)?

NOTE: If your program operates on the basis of an academic year, use the percentages appropriate for the academic year 1966-67.

	Percentage	*Category*
COL. 10-11	__%	1. Pre-school children (0–5 years of age)
COL. 12-13	__%	2. Elementary and secondary school-aged children (about 6–18 years of age)
COL. 14-15	__%	3. Adults 65 and under
COL. 16-17	__%	4. Adults over 65
	100%	TOTAL (BE SURE THAT THE FOUR PERCENTAGES GIVEN BY YOU TOTAL 100%.)

ITEM I. What was the approximate number of different individual clients, for each of the following general categories of speech, hearing or language services, seen by your services program in the past year (1967)?
(NOTE: If your program operates on the basis of an academic year, use the numbers appropriate for the academic year 1966-67). This question is not intended to determine the number of patient visits.

	Number	**Category**
COL. 18	________	1. Speech, hearing, or language screening
COL. 19	________	2. Speech or language testing services other than screening
COL. 20	________	3. Hearing testing services other than screening
COL. 21	________	4. Speech and language habilitation and rehabilitation services (*excluding* hearing handicaps)
COL. 22	________	5. Hearing habilitation and rehabilitation services (*including* speech and language for hearing handicaps)
COL. 23	________	6. Other (Specify) ____________________

Go on to next page

ITEM J. What is the approximate percentage of total time and effort currently spent by the program for each of the following categories of activity?

	Percentage	*Category*
COL. 24-25	___%	1. Direct services to clients
COL. 26-27	___%	2. Staffings and other professional meetings
COL. 28-29	___%	3. Administration (office management, public relations, reports, etc.)
COL. 30-31	___%	4. Teaching and training of students or of other personnel
COL. 32-33	___%	5. Research
COL. 34-35	___%	6. Other (Specify) ______________________________
	____	______________________________
	100%	TOTAL (BE SURE THAT THE SIX PERCENTAGES GIVEN BY YOU TOTAL 100%.)

SECTION II. CHECKLIST OF SPEECH, HEARING, AND LANGUAGE SERVICES WHICH YOUR PROGRAM IS CURRENTLY OFFERING

INSTRUCTIONS: Check YES or NO for EVERY item. Check YES for only those specific services which your program is currently offering, including *all* services which are performed only occasionally. DO NOT LEAVE ANY ITEM UNMARKED.

ITEM A. Speech and Language Testing Services

	YES 1	NO 2	
COL. 36	☐	☐	1. Screening for speech problems
COL. 37	☐	☐	2. Screening for language problems
COL. 38	☐	☐	3. Examining oral mechanism
COL. 39	☐	☐	4. Administering complete tests for articulation problems
COL. 40	☐	☐	5. Testing for voice problems
COL. 41	☐	☐	6. Testing for aphasia and related behaviors
COL. 42	☐	☐	7. Testing for language development
COL. 43	☐	☐	8. Testing for stuttering behavior
COL. 44	☐	☐	9. Evaluating speech problems of persons with cleft palate or lip
COL. 45	☐	☐	10. Evaluating speech problems of persons with cerebral palsy
COL. 46	☐	☐	11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis or related syndromes
COL. 47	☐	☐	12. Evaluating speech problems of the mentally retarded
COL. 48	☐	☐	13. Evaluating speech problems of individuals with hearing handicaps
COL. 49	☐	☐	14. Evaluating speech problems of individuals with emotional disorders
COL. 50	☐	☐	15. Evaluating speech problems of individuals with special learning disabilities
COL. 51	☐	☐	16. Others (Specify) ______________________________

____

Go on to next page

ITEM B. Speech and Language Habilitation and Rehabilitation Services

	YES 1	NO 2	
COL. 52	☐	☐	1. Speech correction for functional articulation problems
COL. 53	☐	☐	2. Therapy for stutterers
COL. 54	☐	☐	3. Speech correction for dysphonias (malfunctions of voice–harshness, hoarseness, breathiness)
COL. 55	☐	☐	4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech
COL. 56	☐	☐	5. Esophageal speech lessons for laryngectomees
COL. 57	☐	☐	6. Speech correction for persons with cleft palate
COL. 58	☐	☐	7. Speech correction for persons with hyper- or hypo-nasality
COL. 59	☐	☐	8. Speech correction for persons with cerebral palsy
COL. 60	☐	☐	9. Speech or language correction (or instruction) for persons with aphasia
COL. 61	☐	☐	10. Speech or language correction (or instruction) for persons with special learning disabilities
COL. 62	☐	☐	11. Speech or language correction (or instruction) for persons with mental retardation
COL. 63	☐	☐	12. Speech or language correction (or instruction) for persons with hearing handicaps
COL. 64	☐	☐	13. Speech or language correction (or instruction) for persons with emotional disorders
COL. 65	☐	☐	14. Speech or language correction (or instruction) for dialects or bilingual problems
COL. 66	☐	☐	15. Speech improvement lessons
COL. 67	☐	☐	16. Tongue thrust or abnormal swallowing correction procedures
COL. 68	☐	☐	17. Language development for culturally deprived
COL. 69	☐	☐	18. Others (Specify) ________________

____

____

Go on to next page

ITEM C. Hearing Testing Services

	YES 1	NO 2	
COL. 70	☐	☐	1. Audiometric screening
COL. 71	☐	☐	2. Pure-tone air conduction tests
COL. 72	☐	☐	3. Pure-tone bone conduction tests
COL. 73	☐	☐	4. Measurement of speech reception thresholds
COL. 74	☐	☐	5. Measurement of speech discrimination
COL. 75	☐	☐	6. Tolerance tests
Card 2			
COL. 7	☐	☐	7. Tests for functional (non-organic) hearing loss; psychogenic
COL. 8	☐	☐	8. Galvanic skin (electro-dermal) response audiometry
COL. 9	☐	☐	9. Békésy automatic audiometry
COL. 10	☐	☐	10. Loudness balance tests
COL. 11	☐	☐	11. SISI tests
COL. 12	☐	☐	12. Tone decay tests
COL. 13	☐	☐	13. Impedance measurements
COL. 14	☐	☐	14. Electronystagmography tests
COL. 15	☐	☐	15. Electroencephalography tests
COL. 16	☐	☐	16. Screening of newborn
COL. 17	☐	☐	17. Audiometric tests specially designed for children
COL. 18	☐	☐	18. Others (Specify) ____________________

____

____

ITEM D. Hearing Habilitation and Rehabilitation Services

	YES 1	NO 2	
COL. 19	☐	☐	1. Evaluating hearing aids for their usefulness to patients
COL. 20	☐	☐	2. Selection of hearing aid
COL. 21	☐	☐	3. Hearing aid orientation
COL. 22	☐	☐	4. Hearing aid rechecks
COL. 23	☐	☐	5. Auditory training
COL. 24	☐	☐	6. Speechreading (Lipreading) lessons
COL. 25	☐	☐	7. Clinical speech training or speech conservation for the hearing handicapped
COL. 26	☐	☐	8. Tutoring or education of hearing handicapped
COL. 27	☐	☐	9. Others (Specify) ____________________

____

____

Go on to next page

ITEM E. Counseling Services

	YES 1	NO 2	
COL. 28	☐	☐	1. Counseling patients
COL. 29	☐	☐	2. Counseling parents or family
COL. 30	☐	☐	3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)
COL. 31	☐	☐	4. Counseling employers of the handicapped
COL. 32	☐	☐	5. Others (Specify) ____
			____

SECTION III: CURRENT STAFF RESPONSIBLE FOR SPEECH, HEARING, OR LANGUAGE SERVICES

INSTRUCTIONS: The questions presented in this section are intended to help you describe, as fully as possible, the number and variety of persons participating in your program of speech, hearing, and language services. For each question that pertains to your *services* program, please present, as required, the appropriate number. *Please do NOT include researchers or academic faculty who spend NONE of their time participating in the services program.*

ANSWER ALL QUESTIONS. IF THE APPROPRIATE NUMBER FOR A GIVEN QUESTION IS "0", PLEASE WRITE "0".

ITEM A. How many persons on your staff of *employees* (do not count volunteers) for offering speech, hearing, and language *services* hold one or more college degrees with a major emphasis on speech, hearing, or language (*excluding* medical doctors)?

COL. 33-34 GIVE THE EXACT NUMBER .... __________

Of these:

1. How many either possess or have completed the academic requirements for Certificates of Clinical Competence from the American Speech and Hearing Association (ASHA) in:

COL. 35-36 (a) *both* Speech Pathology and Audiology .... __________

COL. 37-38 (b) Speech Pathology *only*......................... __________

COL. 39-40 (c) Audiology *only* .... __________

2. How many are FULL TIME *employees* of your services program?

COL. 41-42 GIVE THE EXACT NUMBER .... __________

ITEM B. Do college *students* fulfilling academic requirements for practicum experiences in speech, hearing, and language services participate in your services program?

COL. 43 ☐ 1 YES

☐ 2 NO (GO ON TO ITEM C.)

COL. 44-45 If YES, GIVE THE EXACT NUMBER.............................. __________

Go on to next page

ITEM C. Do you use persons who do not have a college degree to perform or to aid in the performance of any of the services listed in SECTION II of the questionnaire (pp. 3–6)?

COL. 46 ☐ 1 YES (GO ON TO QUESTIONS 1. AND 2. BELOW)

☐ 2 NO (GO ON TO ITEM D.)

If YES:

1. Do you use any persons who have *some* formal college training in speech, hearing, and language services but not enough for a college degree?

COL. 47 ☐ 1 YES

☐ 2 NO

If YES, EXPLAIN what these persons do by way of performing or of aiding in the performance of any of the services listed in SECTION II of this questionnaire (pp. 3–6); if NO, GO ON TO QUESTION 2. BELOW.

2. Do you use any persons who have *no* formal college training in speech, hearing, and language service (e.g., non-professional aides; volunteers; nurses; etc.)?

COL. 48 ☐ 1 YES

☐ 2 NO

If YES, EXPLAIN what these persons do by way of performing or of aiding in the performance of any of the services listed in SECTION II of this questionnaire (pp. 3–6); if NO, GO ON TO ITEM D.

ITEM D. Is your speech, hearing, and language services program served, on a regular basis, by persons who have college degrees with a major emphasis in some field other than speech, hearing, and language who perform or aid in the performance of any of the services listed in SECTION II of this questionnaire (pp. 3–6)?

COL. 49 ☐ 1 YES (GO ON TO QUESTIONS 1. and 2. BELOW)

☐ 2 NO (GO ON TO PAGE 8)

If YES:

COL. 50-52 1. GIVE THE EXACT NUMBER OF SUCH PERSONS USED .... ________

Go on to next page

2. DESCRIBE BY CHECKING *YES* or *NO* for each of the following categories of professional fields and by EXPLAINING what kinds of services are rendered within your program (please refer back to SECTION II of this questionnaire (pp. 3–6) as needed).

	YES 1	NO 2		*List Services Rendered*
COL. 53	☐	☐	a. Psychologists:	
COL. 54	☐	☐	b. Social Workers:	
COL. 55	☐	☐	c. Special Education Teachers:	
COL. 56	☐	☐	d. Guidance Counselors:	
COL. 57	☐	☐	e. Others (Specify): ____________________	

SECTION IV: MANPOWER NEEDS

INSTRUCTIONS: The questions presented in this section are intended to help you describe, as fully as possible, the number and variety of additional *full-time* persons needed *right now* to participate in your program of speech, hearing, or language services. For each question that pertains to your *services* program, please present, in the blanks provided, the numbers which represent your *best estimates* of your needs. *Please do NOT include researchers or academic faculty who would spend NONE of their time participating in the services program.*

ANSWER ALL QUESTIONS. IF THE APPROPRIATE NUMBER FOR A QUESTION IS "0", PLEASE WRITE "0".

ITEM A. Do you have a sufficient number of persons *right now* to meet adequately the demands for services by your program?

COL. 58
1 ☐ YES (GO TO ITEM B. ON THE NEXT PAGE)
2 ☐ NO (GO ON TO QUESTIONS 1., 2., and 3. BELOW)

If NO:

1. How many more *full-time* persons do you need *right now* who either possess or have completed the academic requirements for a Certificate of Clinical Competence from ASHA in *Speech Pathology?*

COL. 59-60 GIVE YOUR BEST ESTIMATE . . . . ________

EXPLAIN, why they are needed: (CHECK ALL THAT APPLY).

COL. 61
1 ☐ To fill existing vacancies
2 ☐ To meet increased demands for services
3 ☐ To replace staff members who are leaving
4 ☐ To replace less qualified staff member(s)
5 ☐ To provide a new service
6 ☐ Other reason (Specify): ____________________

Go on to next page

2. How many more *full-time* persons do you need *right now* who either possess or have completed the academic requirements for a Certificate of Clinical Competence from ASHA in *Audiology?*

COL. 62-63 GIVE YOUR BEST ESTIMATE: . . . . ________

EXPLAIN why they are needed: (CHECK ALL THAT APPLY)

COL. 64
1 ☐ To fill existing vacancies
2 ☐ To meet increased demands for services
3 ☐ To replace staff member(s) who are leaving
4 ☐ To replace less qualified staff member(s)
5 ☐ To provide a new service
6 ☐ Other reason: (Specify). ________________________________
____

3. How many *full-time* speech, hearing, or language specialists with college degrees in a field other than speech pathology or audiology could you use *right now?*

COL. 65-66 GIVE YOUR BEST ESTIMATE:. . . . . ________

EXPLAIN what kind of specialists these would be (e.g., teachers of the deaf, teachers of the hard of hearing, linguists, etc.) and why they are needed: (CHECK ALL THAT APPLY)

COL. 67
1 ☐ To fill existing vacancies
2 ☐ To meet increased demands for services
3 ☐ To replace staff member(s) who are leaving
4 ☐ To replace less qualified staff member(s)
5 ☐ To provide a new service (Specify): ________________________
6 ☐ Other reason (Specify): ________________________________
____

ITEM B. Do you expect the needs for professional speech pathologists and audiologists for your services program to increase in the next five years?

COL. 68
1 ☐ YES (GO ON TO QUESTIONS 1. and 2. BELOW)
2 ☐ NO (GO TO ITEM C. BELOW)

If YES: In addition to your present needs, how many more *full-time* persons will you need who either will possess or will have completed the academic requirements for a Certificate of Clinical Competence from ASHA in:
(GIVE YOUR BEST ESTIMATES)

COL. 69-70 (1) Speech Pathology . . . . ________
COL. 71-72 (2) Audiology . . . . ________

Go on to next page

ITEM C. Are you undertaking any activities pertinent to manpower needs and manpower utilization for your *services* program which you consider to be innovative?

COL. 73 ☐ YES (1)
☐ NO (2) (GO TO ITEM D. BELOW)

If YES, DESCRIBE: ______________________________
____
____

ITEM D. Expansion of Your Program:

1. Possible barriers to the expansion of your speech, hearing, and language services program are listed below. Please RATE these factors as they *affect* the future development of your services in the following manner:

0 = no barrier

1 = barrier of slight significance

2 = barrier of moderate significance

3 = barrier of major significance

Card 3	*Possible Barriers*	*Rating* 0	1	2	3
COL. 7	(a) Lack of financial support for additional personnel	☐	☐	☐	☐
COL. 8	(b) Lack of financial support for additional equipment	☐	☐	☐	☐
COL. 9	(c) Lack of financial support for additional space	☐	☐	☐	☐
COL. 10	(d) Lack of qualified persons available for enlarging the staff	☐	☐	☐	☐
COL. 11	(e) Lack of persons requesting services	☐	☐	☐	☐
COL. 12	(f) Restrictive administrative policy, *including* lack of philosophical support (Specify): ______________________________	☐	☐	☐	☐
COL. 13	(g) Other ______________________________	☐	☐	☐	☐

2. PLEASE CHECK THE ONE BARRIER that is *most* significant:

COL. 14 ☐ a (1) ☐ b (2) ☐ c (3) ☐ d (4) ☐ e (5) ☐ f (6) ☐ g (7)

3. What was the approximate cost *per patient* visit for your program of speech, hearing and language services for the past year (1967). (If your program operates on the basis of an academic year, use the figure appropriate for the academic year 1966-67.) . . . . . $________

4. What do you estimate would be the cost of immediate and necessary expansion of your speech, hearing, and language services program to meet the actual present demands?

COL. 18-23 (a) For Salaries . . . . $________

COL. 24-29 (b) For Equipment . . . . $________

COL. 30-36 (c) For Space . . . . $________

Go on to next page

ITEM E. Does your program use group therapy procedures as well as individual therapy procedures?

COL. 37
1 ☐ YES (GO ON TO QUESTIONS 1., 2., and 3. BELOW)
2 ☐ NO (GO ON TO ITEM F. BELOW)
3 ☐ Not applicable (GO ON TO ITEM F. BELOW)

If YES:

1. Indicate whether group therapy is used with *more* or *less* than half of your clients:

COL. 38
1 ☐ More than half
2 ☐ Less than half

2. EVALUATE the overall success with group therapy procedures:

COL. 39
1 ☐ Excellent
2 ☐ Good
3 ☐ Not very good
4 ☐ Bad
5 ☐ Other (Specify) ____________________

COMMENT:

3. Why do you use group therapy in your program? (CHECK ALL THAT APPLY)

COL. 40
1 ☐ Produces better results
2 ☐ Saves professionals' time
3 ☐ Combination of above two
4 ☐ Other reason (Specify): ____________________

ITEM F. Does your program use programmed learning or self-teaching procedures?

COL. 41
1 ☐ YES (GO ON TO QUESTIONS 1. and 2. BELOW)
2 ☐ NO (GO ON TO ITEM G. BELOW)

If YES:

1. CHECK the ways in which these procedures are used:

COL. 42
1 ☐ To take the place of needed manpower
2 ☐ To serve as an adjunct teaching aid
3 ☐ For research and demonstration projects
4 ☐ Other reason (Specify): ____________________

2. EVALUATE the success of such procedures:

COL. 43
1 ☐ Excellent
2 ☐ Good
3 ☐ Not very good
4 ☐ Bad
5 ☐ Other (Specify): ____________________

COMMENTS:

Go on to next page

ITEM G. Do you have specific ways and means for evaluating the effectiveness of the services offered by your program?

COL. 44
1 ☐ YES
2 ☐ NO

If YES, DESCRIBE; if NO, GO ON TO SECTION V.

SECTION V: CHECKLIST OF ATTITUDES REGARDING SUPPORTIVE PERSONNEL FOR SPEECH, HEARING, AND LANGUAGE SERVICES

INSTRUCTIONS: On the pages which follow are listed a number of specific duties and responsibilities which are now assumed by professionally trained speech pathologists and audiologists. As the director of a speech, hearing, and language services program, you are being asked to indicate your opinion about which, if any, of these duties or responsibilities can be assumed by one or more of three levels of supportive personnel *under appropriate supervision.*

For purposes of our study, the three levels of supportive personnel are defined as follows:

LEVEL 3: *No formal college training* in speech pathology, audiology, or related fields, such as otolaryngology, pediatrics, psychology, social work, linguistics, etc. (may include volunteers, aids, hearing technicians, nurses, etc.)

LEVEL 2: *College training* for speech pathology and audiology *to less than a bachelor's level.*

LEVEL 1: *A master's candidate* with *major* emphasis in speech pathology and audiology or *a holder of a bachelor's degree with major emphasis in speech pathology and audiology.*

PLEASE READ THE ADDITIONAL INSTRUCTIONS AT THE TOP OF THE NEXT PAGE

Go on to next page

For EACH specific duty or responsibility listed below, PLEASE do the following:

(1) If you believe that NO LEVEL of SUPPORTIVE PERSONNEL can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: *NONE.*

(2) If you believe that persons at all levels can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: *LEVEL 3.*

(3) If you believe that persons at either LEVEL 1 or LEVEL 2 can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: *LEVEL 2.*

(4) If you believe that only persons at LEVEL 1 can assume that duty or responsibility, CHECK THE BOX UNDER THE LABEL: *LEVEL 1.*

(5) If you believe that you are not qualified to express an attitude about that duty or responsibility, CHECK THE BOX UNDER THE LABEL: *DON'T KNOW.*

For EACH item, CHECK ONLY ONE BOX. DO NOT LEAVE ANY ITEM UNMARKED.

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3–No formal college training in Speech Pathology and Audiology

LEVEL 2–College training in Speech Pathology and Audiology to less than a Bachelor's Degree

LEVEL 1–Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

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ITEM A. RESPONSIBILITIES FOR RECORDS OR REPORTS

Card 3		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 45	1. Taking case histories on patients	☐	☐	☐	☐	☐
COL. 46	2. Preparing reports to other agencies or individuals about patients	☐	☐	☐	☐	☐
COL. 47	3. Daily or weekly logs on patients	☐	☐	☐	☐	☐
COL. 48	4. Lesson plans	☐	☐	☐	☐	☐
COL. 49	5. Other (Specify) ______________________ ______________________	☐	☐	☐	☐	☐

ITEM B. DUTIES REGARDING SPEECH AND LANGUAGE DIAGNOSES

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 50	1. Screening for speech problems	☐	☐	☐	☐	☐
COL. 51	2. Screening for language problems	☐	☐	☐	☐	☐
COL. 52	3. Examining oral mechanism	☐	☐	☐	☐	☐
COL. 53	4. Administrating complete tests for articulation problems	☐	☐	☐	☐	☐

Go on to next page

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3—No formal college training in Speech Pathology and Audiology
LEVEL 2—College training in Speech Pathology and Audiology to less than a Bachelor's Degree
LEVEL 1—Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

---

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 54	5. Testing for voice problems	☐	☐	☐	☐	☐
COL. 55	6. Testing for aphasia and related behaviors	☐	☐	☐	☐	☐
COL. 56	7. Testing for language development	☐	☐	☐	☐	☐
COL. 57	8. Testing for stuttering behavior	☐	☐	☐	☐	☐
COL. 58	9. Evaluating speech problems of persons with cleft palate or lip	☐	☐	☐	☐	☐
COL. 59	10. Evaluating speech problems of persons with cerebral palsy	☐	☐	☐	☐	☐
COL. 60	11. Evaluating speech problems of individuals with Parkinson's disease, multiple sclerosis, or related syndromes	☐	☐	☐	☐	☐
COL. 61	12. Evaluating speech problems of the mentally retarded	☐	☐	☐	☐	☐
COL. 62	13. Evaluating speech problems of individuals with hearing handicaps	☐	☐	☐	☐	☐
COL. 63	14. Evaluating speech problems of individuals with emotional disorders	☐	☐	☐	☐	☐
COL. 64	15. Evaluating speech problems of individuals with special learning disabilities	☐	☐	☐	☐	☐
COL. 65	16. Interpreting speech tests performed by supportive personnel or persons of lesser experience	☐	☐	☐	☐	☐
COL. 66	17. Preparation of equipment, apparatus, or materials for any of the items 1–16	☐	☐	☐	☐	☐
COL. 67	18. Others (Specify)____________________ ____________________________	☐	☐	☐	☐	☐

ITEM C. DUTIES FOR SPEECH AND LANGUAGE HABILITATION AND REHABILITATION

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 68	1. Speech correction for functional articulation problems	☐	☐	☐	☐	☐
COL. 69	2. Therapy for stutterers	☐	☐	☐	☐	☐

Go on to next page

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3–No formal college training in Speech Pathology and Audiology

LEVEL 2–College training in Speech Pathology and Audiology to less than a Bachelor's Degree

LEVEL 1–Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

---

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 70	3. Speech correction for dysphonias (malfunctions of voice–harshness, hoarseness, breathiness)	☐	☐	☐	☐	☐
COL. 71	4. Pre-operative orientation for laryngectomees, or other persons whose surgery might affect speech	☐	☐	☐	☐	☐
COL. 72	5. Esophageal speech lessons for laryngectomees	☐	☐	☐	☐	☐
COL. 73	6. Speech correction for persons with cleft palate	☐	☐	☐	☐	☐
COL. 74	7. Speech correction for persons with hyper- or hypo-nasality	☐	☐	☐	☐	☐
COL. 75	8. Speech correction for persons with cerebral palsy	☐	☐	☐	☐	☐
Card 4						
COL. 7	9. Speech or language correction (or instruction) for persons with aphasia	☐	☐	☐	☐	☐
COL. 8	10. Speech or language correction (or instruction) for persons with special learning disabilities	☐	☐	☐	☐	☐
COL. 9	11. Speech or language correction (or instruction) for persons with mental retardation	☐	☐	☐	☐	☐
COL. 10	12. Speech or language correction (or instruction) for persons with hearing handicaps	☐	☐	☐	☐	☐
COL. 11	13. Speech or language correction (or instruction) for persons with emotional disorders	☐	☐	☐	☐	☐
COL. 12	14. Speech or language correction (or instruction) for dialects or bilingual problems	☐	☐	☐	☐	☐
COL. 13	15. Speech improvement lessons	☐	☐	☐	☐	☐
COL. 14	16. Tongue thrust or abnormal swallowing correction procedures	☐	☐	☐	☐	☐
COL. 15	17. Language development for culturally deprived	☐	☐	☐	☐	☐
COL. 16	18. Preparation of equipment, apparatus, or materials for any of the items 1–17	☐	☐	☐	☐	☐
COL. 17	19. Others (Specify)____________________	☐	☐	☐	☐	☐

Go on to next page

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3–No formal college training in Speech Pathology and Audiology

LEVEL 2–College training in Speech Pathology and Audiology to less than a Bachelor's Degree

LEVEL 1–Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

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ITEM D. DUTIES REGARDING HEARING DIAGNOSES

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 18	1. Audiometric screening	☐	☐	☐	☐	☐
COL. 19	2. Pure tone air conduction tests	☐	☐	☐	☐	☐
COL. 20	3. Pure tone bone conduction tests	☐	☐	☐	☐	☐
COL. 21	4. Measurement of speech reception thresholds	☐	☐	☐	☐	☐
COL. 22	5. Measurement of speech discrimination	☐	☐	☐	☐	☐
COL. 23	6. Tolerance tests	☐	☐	☐	☐	☐
COL. 24	7. Tests for functional (non-organic) hearing loss; psychogenic	☐	☐	☐	☐	☐
COL. 25	8. Galvanic skin (electro-dermal) response audiometry	☐	☐	☐	☐	☐
COL. 26	9. Békésy automatic audiometry	☐	☐	☐	☐	☐
COL. 27	10. Loudness balance tests	☐	☐	☐	☐	☐
COL. 28	11. SISI tests	☐	☐	☐	☐	☐
COL. 29	12. Tone decay tests	☐	☐	☐	☐	☐
COL. 30	13. Impedance measurements	☐	☐	☐	☐	☐
COL. 31	14. Electronystagmography tests	☐	☐	☐	☐	☐
COL. 32	15. Electroencephalography tests	☐	☐	☐	☐	☐
COL. 33	16. Screening of newborn	☐	☐	☐	☐	☐
COL. 34	17. Audiometric tests specially designed for children	☐	☐	☐	☐	☐
COL. 35	18. Interpretation of any of items 1–17	☐	☐	☐	☐	☐
COL. 36	19. Preparation of equipment, apparatus, or materials for any of items 1–17	☐	☐	☐	☐	☐
COL. 37	20. Others (Specify)______________________ ______________________	☐	☐	☐	☐	☐

Go on to next page

LEVELS OF SUPPORTIVE PERSONNEL

LEVEL 3–No formal college training in Speech Pathology and Audiology

LEVEL 2–College training in Speech Pathology and Audiology to less than a Bachelor's Degree

LEVEL 1–Master's Candidate or Bachelor's Degree Holder in Speech Pathology and Audiology

---

ITEM E. DUTIES FOR HEARING HABILITATION AND REHABILITATION

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 38	1. Evaluating hearing aids for their usefulness to patients	☐	☐	☐	☐	☐
COL. 39	2. Selection of hearing aid	☐	☐	☐	☐	☐
COL. 40	3. Hearing aid orientation	☐	☐	☐	☐	☐
COL. 41	4. Hearing aid rechecks	☐	☐	☐	☐	☐
COL. 42	5. Auditory training	☐	☐	☐	☐	☐
COL. 43	6. Speechreading (Lipreading) lessons	☐	☐	☐	☐	☐
COL. 44	7. Clinical speech training or speech conservation for the hearing handicapped	☐	☐	☐	☐	☐
COL. 45	8. Tutoring or education for hearing handicapped	☐	☐	☐	☐	☐
COL. 46	9. Others (Specify) ____________________ ____________________	☐	☐	☐	☐	☐

ITEM F. DUTIES REGARDING COUNSELING OR INDOCTRINATING

		LEVEL 3	LEVEL 2	LEVEL 1	NONE	DON'T KNOW
COL. 47	1. Counseling patients	☐	☐	☐	☐	☐
COL. 48	2. Counseling parents or family	☐	☐	☐	☐	☐
COL. 49	3. Indoctrinating ancillary personnel (e.g., classroom teachers, nurses, etc.)	☐	☐	☐	☐	☐
COL. 50	4. Counseling of employers of the handicapped	☐	☐	☐	☐	☐
COL. 51	5. Others (Specify) ____________________ ____________________	☐	☐	☐	☐	☐

Go on to next page

SECTION VI. RESEARCH NEEDS

What do you believe are the most important research needs regarding manpower needs and manpower utilization for speech pathology and audiology?

SPECIFY:

PLEASE GO BACK AND BE SURE YOU HAVE ANSWERED EVERY ITEM
PLEASE RETURN BY MARCH 11, 1968

ASHA STUDY NO. 07b February, 1968

APPENDIX C

This questionnaire was mailed to a ten percent random sample of the ASHA membership.

AMERICAN SPEECH AND HEARING ASSOCIATION
9030 OLD GEORGETOWN ROAD
WASHINGTON, D.C. 20014

OFFICE OF THE EXECUTIVE SECRETARY

Dear Colleague:

In 1967 ASHA was awarded a grant from the Rehabilitation Services Administration to undertake a study of manpower needs and manpower utilization in speech pathology and audiology. As a part of that proposal, it was agreed that ASHA should undertake a survey of a sample of its members to determine such things as (1) the relative amounts of time spent in a typical work week offering direct services to persons with speech, hearing, or language disorders; offering direct services to families of such persons; supervising others who offer the direct services; record-keeping; etc; (2) the number of such persons they serve; (3) the various kinds of services they offer to such persons; and (4) how their time is spent in the event they do not offer direct services to such handicapped persons. As it turns out, our sampling procedure has placed you on the list of proposed respondents for this survey.

If you were a participant in one of the on-the-spot surveys conducted recently by Mrs. Frances Lichtenberg or Mr. George Schueller, it is not intended that you should complete this questionnaire. Simply check the box below and return the questionnaire to us immediately.

☐ I participated in one of the on-the-spot studies.

If you did not participate in one of the on-the-spot studies we would greatly appreciate your taking the time to complete the questionnaire.

In either case, we would be grateful if you could return the questionnaire to us no later than March 11, 1968

Your contribution will help insure the collection of meaningful data and the success of the project.

Sincerely,

William E. Castle

William E. Castle, Ph.D.
Associate Secretary, ASHA
Project Director

COL. 1-4 ________

QUESTIONNAIRE

SECTION I. DESCRIPTION OF EMPLOYMENT ENVIRONMENT

INSTRUCTIONS: For each of the following items, please give only that *ONE* response which is *most* appropriate to you.

ITEM A. *Work setting:* Check that *one* setting which is predominant for you currently.

COL. 5

1 ☐ Community Speech and Hearing Center.
2 ☐ Non-University Hospital or Health Facility (e.g., medical or rehabilitation center).
3 ☐ University Hospital, Medical Center, Medical College, or other Health Facility. (e.g., Dental School)
4 ☐ University or College (*excluding* university hospitals, medical centers, or medical colleges).
5 ☐ Elementary or Secondary School (If setting is set up for a special population of children, such as a school for the deaf, a school for the retarded, please SPECIFY).

____

____

____

6 ☐ Other (SPECIFY) ________

____

____

ITEM B. Relative size of speech and hearing clinical staff of the setting you have checked for ITEM A above.

COL. 6

1 ☐ Small (1-2 speech and hearing clinicians).
2 ☐ Medium (3-7 speech and hearing clinicians).
3 ☐ Large (8 or more speech and hearing clinicians).
4 ☐ Not applicable.

Go on to next page

ITEM C. Check your area of *employment:*

COL. 7
1 ☐ Me., Vt., N.H., Mass., Conn., R.I.
2 ☐ N.Y., Pa., N.J., Dela.
3 ☐ Ky., W.Va., Va., Md., N.C., D.C.
4 ☐ Tenn., Miss., Ala., Ga., S.C., Fla.
5 ☐ Wis., Ill., Ind., Mich., Ohio
6 ☐ N.D., S.D., Neb., Kan., Minn., Ia., Mo.
7 ☐ N.M., Tex., Okla., Ark., La.
8 ☐ Mont., Idaho, Wyo., Utah, Colo.
9 ☐ Wash., Ore., Cal., Alaska, Hawaii, Nev., Ariz.
10 ☐ Other (SPECIFY) ______________________________

SECTION II. EMPLOYMENT STATUS FOR YOUR *PREDOMINANT* WORK SETTING

INSTRUCTIONS: For each of the following items, please GIVE ONLY THAT *ONE* response which is *most* appropriate to you for your current *predominant* work setting, unless otherwise indicated. Your responses should *all* be made for *only* that work setting which you checked in SECTION I. ITEM A. above.

ITEM A. Specify your relative time status for this setting:

COL 8.
1 ☐ Full-time employee for less than one year.
2 ☐ Full-time employee for one year or more.
3 ☐ Half-time employee for less than one year.
4 ☐ Half-time employee for one year or more.
5 ☐ Limited part-time employee (e.g., hourly).
6 ☐ Full-time or part-time graduate student.

ITEM B. Specify your *primary* job task in this setting:

COL 9.
1 ☐ Clinical Service.
2 ☐ Supervision of Clinical Service.
3 ☐ Research.
4 ☐ Administration.
5 ☐ Teaching college students.
6 ☐ Other (SPECIFY) ______________________________

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ITEM C. Specify your average number of working hours per week for this setting:

COL. 10 1 ☐ 1–10 3 ☐ 21–30 5 ☐ over 40
2 ☐ 11–20 4 ☐ 31–40

ITEM D. Specify the number of hours in an average week spent on the following general categories of duty and responsibility in this setting. PLEASE GIVE YOUR BEST ESTIMATE FOR EACH CATEGORY; IF NONE, WRITE 0:

NUMBER OF HOURS

COL. 11-12 1. General Administration . . . . ____________
COL. 13-14 2. Supervision (of other staff, including supportive personnel) . . . . ____________
COL. 15-16 3. Preparation of Records and Reports . . . . ____________
COL. 17-18 4. Speech and Language Diagnoses . . . . ____________
COL. 19-20 5. Speech and Language Habilitation and Rehabilitation . . . . ____________
COL. 21-22 6. Hearing Testing . . . . ____________
COL. 23-24 7. Performing Tasks for Hearing Habilitation and Rehabilitation . . . . . . ____________
COL. 25-26 8. Counseling (patients, parents, or others) . . . . ____________
COL. 27-28 9. Teaching or Training (college students) . . . . ____________
COL. 29-30 10. Research. . . . . ____________
COL. 31-32 11. Outside Professional Meetings, Speaking Engagements, etc. . . . . ____________
COL. 33-34 12. Other (SPECIFY) ______________________________
____
____
______________________________________ . . . . ____________

TOTAL HOURS ____________

(NOTE: THE TOTAL HOURS SHOULD BE CONSISTENT WITH YOUR RESPONSE TO "C" ABOVE.)

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ITEM E. Specify the approximate number of persons who receive speech, hearing, or language services directly from you in an average work week in this setting:

COL. 35

0 ☐ 0 (not applicable)
1 ☐ 1–5
2 ☐ 6–10
3 ☐ 11–20
4 ☐ 21–30
5 ☐ 31–40
6 ☐ 41–50
7 ☐ 51–70
8 ☐ 71–90
9 ☐ over 90

ITEM F. Are any clinical services that you perform supervised by another staff member?

COL. 36 ☐ YES ☐ NO ☐ Not Applicable

ITEM G. Specify your official job title for this work setting:

COL. 37-38 ______________________________

ITEM H. Is the job title which you specified in ITEM G. above satisfactory to describe what you do in this setting?

COL. 39 1 ☐ YES 2 ☐ NO

ITEM I. If your response to ITEM H. above is NO, what job title would you prefer? (SPECIFY)

COL. 40-41 ______________________________

ITEM J. Do you feel there are *minimum* formal education requirements for someone starting in the position that you now fill in this work setting?

COL. 42

0 ☐ NONE
1 ☐ high school graduate.
2 ☐ two years of college.
3 ☐ bachelor's degree with major emphasis in field other than speech pathology-audiology.
4 ☐ bachelor's degree with major emphasis in speech pathology-audiology.
5 ☐ master's degree in field other than speech pathology-audiology.
6 ☐ master's degree in speech pathology-audiology.
7 ☐ doctor's degree in field other than speech pathology-audiology.
8 ☐ doctor's degree in speech pathology-audiology.
9 ☐ Other (SPECIFY) ______________________________

____

____

Go on to next page

ITEM K. Are there any duties or responsibilities which you perform in this work setting that you feel could satisfactorily be performed by persons with less education?

COL. 43 1 ☐ YES 2 ☐ NO 3 ☐ Not applicable

COL. 44 If YES, Explain:

ITEM L. Are there any specific duties or responsibilities which you perform in this work setting for which you feel you are undereducated?

COL. 45 1 ☐ YES 2 ☐ NO 3 ☐ Not applicable

COL. 46 If YES, Explain:

ITEM M. Does this work setting offer you good opportunities for advancement (upward mobility)?

COL. 47 1 ☐ YES 2 ☐ NO 3 ☐ Not applicable

COL. 48 If NO, Explain:

ITEM N. Are there specific things required of you in order for you to advance on the job in this setting?

COL. 49 1 ☐ YES 2 ☐ NO 3 ☐ Not applicable

COL. 50 If YES, Explain:

Go on to next page

SECTION III. CHECKLIST FOR IDENTIFYING PERSONAL DATA

INSTRUCTIONS: For each of the following items, please CHECK (X) *ONLY THAT ONE* response which is most appropriate to you, unless otherwise indicated.

ITEM A. SEX:

COL. 51
1 ☐ Male
2 ☐ Female

ITEM B. AGE:

COL. 52
1 ☐ 20 or less
2 ☐ 21–25
3 ☐ 26–30
4 ☐ 31–35
5 ☐ 36–40
6 ☐ 41–45
7 ☐ 46–50
8 ☐ 51–55
9 ☐ 56–65
0 ☐ over 65

ITEM C. MARITAL STATUS:

COL. 53
1 ☐ Single
2 ☐ Married
3 ☐ Widowed
4 ☐ Divorced

ITEM D. EDUCATION AND TRAINING:

1. Highest degree earned:

COL. 54
1 ☐ None
2 ☐ Bachelor's
3 ☐ Master's
4 ☐ Doctor's

2. Specify *major* emphasis of your education and training (CHECK ONE ONLY):

COL. 55
1 ☐ Speech Pathology
2 ☐ Audiology
3 ☐ Language Pathology
4 ☐ Equal emphasis on Speech Pathology and Audiology
5 ☐ Equal emphasis on Speech Pathology and Language Pathology
6 ☐ Equal emphasis on Audiology and Language Pathology
7 ☐ Equal emphasis on all three
8 ☐ Other (SPECIFY) ______________________________
____
____

3. Specify your highest academic degree with *major* emphasis in Speech Pathology-Audiology:

COL. 56
1 ☐ None
2 ☐ Bachelor's
3 ☐ Master's
4 ☐ Doctor's

Go on to next page

ITEM E. WORK EXPERIENCE BACKGROUND FOR SPEECH AND HEARING SERVICES (DO NOT INCLUDE PRACTICUM EXPERIENCE):

COL. 57 1. Number of Years:

0 ☐ None (not applicable)
1 ☐ Less than 1
2 ☐ 1–2
3 ☐ 3–5
4 ☐ 6–10
5 ☐ 11–15
6 ☐ 16–20
7 ☐ 21–25
8 ☐ 26 plus

2. How would you describe the continuity of these years of experience?

COL. 58
☐ Continuous
☐ Intermittent, but with *minor* breaks (one year or less)
☐ Intermittent, with *major* breaks
☐ (SPECIFY) ______________________________
____
____

3. Settings: Check YES for EACH of the following settings in which you have had some work experience, including practicum experience. Check NO for EACH of the settings in which you have had no work experience. DO NOT leave any item UNMARKED.

	YES	NO	
COL. 59	☐	☐	1. Community Speech and Hearing Center
COL. 60	☐	☐	2. Non-University Hospital or Health Facility (e.g., medical or rehabilitation center)
COL. 61	☐	☐	3. University Hospital, Medical Center, Medical College, or other Health Facility (e.g., Dental School)
COL. 62	☐	☐	4. University or College (*excluding* university hospitals, medical center, or medical college)
COL. 63	☐	☐	5. Elementary or Secondary School (If setting is set up for a special population of children, such as a school for the deaf, a school for the retarded, please SPECIFY) ______________________________ ______________________________ ______________________________ ______________________________
COL. 64	☐	☐	6. Other (SPECIFY) ______________________________ ______________________________ ______________________________

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4. Certification:

COL. 65 a. ASHA certification *possessed* by you under current standards (CHECK ONE ONLY):

1 ☐ Certificate of Clinical Competence in Speech Pathology

2 ☐ Certificate of Clinical Competence in Audiology

3 ☐ Certificate of Clinical Competence in *both* Speech Pathology and Audiology

4 ☐ None

b. ASHA certification not possessed by you, but for which your application has been accepted under current standards (CHECK ONE ONLY):

COL. 66

1 ☐ Certificate of Clinical Competence in Speech Pathology

2 ☐ Certificate of Clinical Competence in Audiology

3 ☐ Certificate of Clinical Competence in *both* Speech Pathology and Audiology

4 ☐ None

c. Other professional certificates possessed by you (CHECK ALL THAT APPLY):

COL. 67

1 ☐ State certificate for speech correction

2 ☐ State certificate for teaching hard-of-hearing children

3 ☐ Certificate for teaching the deaf from the Conference of Executives of American Schools of the Deaf

4 ☐ Others (SPECIFY) ____________________

____

____

____

5 ☐ None

d. Other professional certificates not possessed by you, but *for which your application has been accepted* (CHECK ALL THAT APPLY):

COL. 68

1 ☐ State certificate for speech correction

2 ☐ State certificate for teaching hard-of-hearing children

3 ☐ Certificate for teaching the deaf from the Conference of Executives of American Schools for the Deaf

4 ☐ Others (SPECIFY) ____________________

____

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____

5 ☐ None

Go on to next page

ITEM F. How long do you expect to continue working in this profession? (Disregard breaks of less than one year.)

COL. 69
1 ☐ Indefinitely
2 ☐ At least for next five years
3 ☐ Between one and five years
4 ☐ Less than one
5 ☐ Don't know

ITEM G. If you expect to continue working less than five years, which would be the most important reason for your stopping work?

COL. 70
1 ☐ Marriage
2 ☐ Moving
3 ☐ Maternity
4 ☐ Dissatisfaction with salary
5 ☐ Dissatisfaction with working conditions
6 ☐ Dissatisfaction with possibility for promotion
7 ☐ Dissatisfaction with professional requirements
8 ☐ Other (SPECIFY) ____________________
____
9 ☐ Not applicable

ITEM H. Which professional title is most appropriate for you?

COL. 71
1 ☐ Speech Pathologist
2 ☐ Audiologist
3 ☐ Speech Pathologist-Audiologist
4 ☐ Teacher of the Deaf
5 ☐ Psychologist
6 ☐ Linguist
7 ☐ Otolaryngologist
8 ☐ Other (SPECIFY) __________
____
____

PLEASE CHECK TO BE SURE THAT YOU HAVE RESPONDED TO ALL ITEMS

RETURN THE QUESTIONNAIRE BY MARCH 11, 1968